

**{In Archive} hydraulic fracturing in the news**

**Beth Wagner** to: Brian Graves, Ken-E Johnson, Michael Bechdol, Michael Overbay, Mike Frazier, Ray Leissner, Susie McKenzie, Jessica Duggan, David Parker, Philip Turner, Rob

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**Enviros on the lookout for storm damage to Marcellus operations**

Ellen M. Gilmer, E&E reporter Energywire Published: Thursday, November 1, 2012

As Hurricane Sandy began its march up the East Coast on Monday, environmentalists called on those weathering the storm to keep an eye on natural gas wells. Better yet, take a picture.

The Pennsylvania-based Delaware Riverkeeper Network warned that heavy rain and high winds from the massive storm could threaten Marcellus rigs, wells and related infrastructure -- leading to uncontrolled release of toxins into the environment. But all that could go unchecked, the group said, unless residents document the damage.

"These terrible impacts tend to get masked by the ravages of flooding and we never even know what happened," the group said in its call to action.

The network plans to collect the submitted photos and pass them along to an analyst who will try to identify the companies responsible for any wrecked equipment, along with associated pollution. The group tried a similar effort during last year's Hurricane Irene but came up short, saying flooding had wiped away the evidence. Another environmental group began distributing a photo of a flooded drilling rig, which was later exposed to be a picture from Pakistan.

Oil and gas industry representatives have told the public that drillers take precautions to avoid any such pollution. Tom Shepstone of Energy in Depth, an arm of the Independent Petroleum Association of America, went on the defense in a post for the group's Marcellus blog. He dismissed the call to action from the Delaware Riverkeeper Network as an attempt at capitalizing on the storm by using hypothetical damage as ammunition for the environmentalists' cause.

John Krohn, a spokesman for Energy in Depth, outlined the regulations that protect against storm-related pollution. In Pennsylvania, for example, drillers must provide erosion and sedimentation plans that limit the amount of rainwater running off the well pad, in accordance with the state Clean Streams Act. Plus, well sites must have backup containment systems, such as dikes and barriers.

Pennsylvania Gov. Tom Corbett (R) issued an order earlier this week for Marcellus operators to remove equipment from flood-prone areas and to ensure that pits holding flowback fluid would not run over. Department of Environmental Protection head Michael Krancer said drillers had made those preparations and that his agency had not heard about any storm-related damage.

Krohn told EnergyWire that Pennsylvania sites are less likely to have that problem because so many drillers use a closed-loop system that eliminates the need for pits.

"Less than a year removed from similar efforts, activists are again directing volunteers to defy local officials and risk life and limb to photograph natural gas operations potentially impacted by severe weather," Krohn said in an emailed statement. "Of course, strong regulatory requirements and a commitment to safety by the industry make these impacts unlikely."

The Delaware Riverkeeper Network emphasized in its call to action that residents should not endanger

themselves to get a picture.

As of yesterday, the group said it could not report findings because its Internet connection had not yet been restored after the storm.

### **Expansion of New York gas-fired power draws on Marcellus potential**

Saqib Rahim, E&E reporter Energywire Published: Thursday, November 1, 2012

Even before Hurricane Sandy barreled through Long Island, knocking out power for 90 percent of customers, this was a place with choices to make about its grid. And last week, it signaled that its next step will be toward natural gas.

Cut off from large power plants upstate, stuck behind one of the nation's hungriest power markets in New York City, Long Island has been pondering its energy future. There are transmission constraints and regulatory imperatives, not to mention a lack of space or enthusiasm for new power plants on the island. There's a fleet of old power plants -- designed to run on oil but currently running on low-cost gas -- on the verge of retirement.

In balancing those various pressures, the island's major utility decided last week to advance proposals for two new gas-fired power plants.

In a statement, Chairman Howard Steinberg said the Long Island Power Authority, or LIPA, is counting on the new gas generators, energy efficiency and renewable energy to "begin the transition to a cleaner, more reliable and reasonably priced electric system on Long Island."

If LIPA approves both plants and activates them in 2017, they will add nearly 1,100 megawatts of capacity to one of the oldest power fleets in the country. Each would be built on an existing power site.

The move signals that even in New York state, which has been a hot spot in the debate over shale gas production, the economics can prove overwhelming. Natural gas is already the state's top energy source, supplying six of its 10 largest power plants, according to the Energy Information Administration.

LIPA considered 45 project proposals, ranging from batteries to offshore wind turbines to power lines from upstate, and still ranked the two gas projects as the best.

Both plants are likely to benefit from the low-cost gas emerging from the Marcellus Shale, whether directly or indirectly. New pipelines may be built to deliver gas straight from that play. But existing pipelines have also felt price pressure from the Marcellus gas, so they will offer a low-cost option as well.

For Long Island, however, the energy decisions will continue. The island has about 5,500 MW of installed power capacity, much of it in the form of old, inefficient power plants built to run on oil or gas, said Matthew Cordaro, who spent 40 years in the utility business and currently volunteers for a board that oversees LIPA for one of the major counties on the island.

As these plants face retirement, Long Islanders are debating what to use instead.

Cordaro has argued for "re-powering": refitting the old power plants to run more efficiently on natural gas. He said that would meet power demands cheaply, with less pollution than today's old plants, and without taking up new space on the island -- a choice that many residents would resist.

The strategy has some support from Gov. Andrew Cuomo, although not at the scale Cordaro would like. Still, Cordaro said, in the larger picture, gas makes more sense for Long Island than the alternatives. While gas prices could fluctuate, he said, current projections suggest they will stay low.

"If you have the highest [electricity] rates in the country, it's unreasonable to burden ratepayers with renewables because of a religious fervor in support of them," he said. "Right now natural gas is looking good. There is a large supply of it, the price is lower than it's ever been, and all the potential for future

supplies is there

As LIPA announced the new natural gas plants, it also said it wants to beef up renewables and energy efficiency. It said it will lure more solar power onto the grid using a feed-in tariff. And it will solicit up to 280 MW of new renewables capacity, including offshore wind, by 2018.

Renewables advocates such as Gordian Raacke, executive director of Renewable Energy Long Island, had hoped for more. He said the island has large solar and wind resources that are ready to play a primary role in the island's energy future. He said multiple proposals for an offshore wind farm have been shot down over the last decade.

"I think it is unfortunate that Gov. Cuomo and LIPA are planning to continue our heavy dependence on fossil fuels for decades," he said. "But it is encouraging to see promises for at least some new clean energy projects over the next few years."

He said natural gas may seem like a bargain now -- for balancing cost, reliability and environmental benefit -- but no one knows whether the price could dramatically increase in the future.

Down the road, Long Island may have another option: energy storage. One proposal LIPA considered, a 400 MW battery farm offered by AES Energy Storage, nearly made the final cut.

John Zahurancik, vice president of that AES division, said the proposal was cut because it was better suited to peak load -- surges of electricity demand in the middle of the day -- rather than the round-the-clock generation LIPA wanted.

But as Long Island retires more of the old power plants, he said, LIPA may consider batteries as a way to provide power without using fossil fuels.

For the moment, LIPA has more pressing priorities. Roughly 855,000 LIPA customers are still without power due to the hurricane; that figure understates how many people are affected, because many people may share a meter and count as a single "customer." That figure is down from nearly 950,000 customers Tuesday.

Cuomo yesterday identified Long Island as the most difficult place to restore power. Substations on the island's southern coast have been destroyed.

A repair army of 5,000 workers is trying to get the full grid back online, LIPA said yesterday afternoon. Its priority is to set up the high-voltage "backbone" of the grid: high-voltage power lines and substations that deliver power to communities. LIPA said it has had difficulty drawing enough repair workers from other regions because of Sandy's continued path westward and competition with New York City.

#### **Utility commission must stop reviews that kept drilling money from townships -- judge**

Ellen M. Gilmer, E&E reporter Energywire Published: Thursday, November 1, 2012

A Pennsylvania court has ordered the state utility commission to stop reviewing local drilling ordinances -- a process that kept three townships from receiving oil and gas funds that were doled out statewide last month.

In an order issued last week, Commonwealth Court Senior Judge Keith Quigley banned the Public Utility Commission (PUC) from continuing ordinance reviews because they effectively carried out a now-stricken provision of Pennsylvania's new oil and gas law, Act 13.

The provision held that municipalities were not allowed to have zoning ordinances that limited where natural gas operations could occur. In July, the Commonwealth Court struck down that measure as unconstitutional, a decision that has now been appealed to the state Supreme Court. The Commonwealth Court also enjoined all other sections of Act 13 that served to enforce the zoning measure.

But here's where it gets tricky: A separate, unchallenged measure holds that municipalities cannot have environmental ordinances more stringent than state law. Act 13 sets up a process for the PUC to review ordinances for compliance. According to a PUC source, the commission believed it still had a legal responsibility to carry out those reviews. The PUC could sidestep the zoning issue and focus on whether ordinances overstepped their bounds on environmental rules.

In doing so, the commission withheld from four townships their share of oil and gas impact fee money because they had ordinance reviews pending. In his order, the judge wrote that the court's July decision did not distinguish between the reasons for review -- zoning or otherwise -- and ordered the commission to cease and desist.

According to an attorney who has represented municipalities throughout the legal battle over Act 13's zoning provision, the PUC "had no basis" to conduct the reviews in the first place. And even if it had, he said, there was no legal reason to withhold the impact fee money.

The legislative deadline for payouts is Dec. 1. The judge's order seems to ensure that the townships will now receive their payments, which total more than \$400,000. But the PUC has not yet confirmed that. A spokeswoman for the commission said yesterday that reviews had been suspended but that the PUC was still reviewing the implications of the order. As of yesterday, no appeal had been filed.

### **Gas driller to convert rigs from diesel to natural gas**

Mike Soraghan, E&E reporter Energywire Published: Thursday, November 1, 2012

Gas driller Seneca Resources Corp. is going to start using its own product for drilling operations.

The company announced Thursday that it will complete the conversion of two of its Pennsylvania drilling rigs from diesel fuel to natural gas.

Seneca says they will be the "first dedicated, 100 percent liquefied natural gas (LNG)-fueled drilling rigs" operating in Pennsylvania's Marcellus Shale.

The first rig was converted earlier this month in Lycoming County, the company said in a release. It expects the conversion of a second rig to be complete in early November.

Seneca is also planning to deploy a rig running on both diesel and natural gas within a year. Eventually, the company hopes to use "field gas" -- natural gas produced from wells near the rig -- to run its rigs.

"The use of alternative fuels," said Seneca President Matthew Cabell, "is just one step in a broader strategic plan to expand the use of natural gas in our drilling program."

The move reduces the rigs' "environmental footprint," he said, but also costs less. Natural gas burns cleaner than diesel, with less carbon dioxide, volatile organic compounds and nitrogen oxide.

Cabell said that at today's prices, the savings could be as much as 65 percent.

The rigs are also quieter and produce far less odor, which improves relationships with drill rig neighbors.

Seneca isn't the first company to undertake such an effort. EQT Corp., a driller focused on gas production, announced in July the launch of a pilot program to use LNG on rigs. At the time, the switch was under way at a rig in West Virginia (EnergyWire, July 6).

Cabot Oil and Gas Corp. said in June it is working to convert some of its drilling rigs to compressed natural gas (CNG). The company is building a CNG filling station in Susquehanna County, Pa., to provide fuel for up to three drilling rigs.

"Finding more ways to leverage our abundant natural gas resources makes good environmental and business sense, and that's exactly why we continue to see more and more operators making these

investments," said Travis Windle, spokesman for the Marcellus Shale Coalition, an industry group. "Likewise, our industry remains focused on expanding our natural gas vehicle fleets as well as public access to compressed natural gas filling stations."

### **Proposed Iowa frac sand mine draws opposition**

Energywire Published: Thursday, November 1, 2012

Critics of a proposal to build a frac sand mine in Iowa's Allamakee County are saying the plan will desecrate local vistas and create noise and traffic.

The silica sand mine is an extension of the "sand rush" that has hit neighboring Wisconsin and Minnesota, where mines are extracting special sand for use in hydraulic fracturing, the process of blasting water, sand and chemicals into shale rock to extract oil and gas.

"Mining interests are coming at us like a runaway bulldozer going 100 mph," said Ric Zarwell, the leader of the Allamakee County Protectors, a growing group that represents residents opposed to the planned sand mine.

Opponents of the proposal say the mine would lead to the removal or defacement of scenic hills and would kick up dangerous silica dust. Heavy traffic and erosion would also accompany the project, Zarwell said.

Rick Frick, the founder of Minnesota Sands LLC, the firm pursuing at least three mining projects in the county, said the group may be overreacting.

"It's just sand," he said. "It's strictly the choice of the landowner. They call me to test their sand. I don't push anybody. It's up to them if they want to sell their sand."

Minnesota Sands spokesman Geoff Griffin said the Iowa county's Jordan sandstone is well-suited for fracturing because of its grain shape and size and the accessible location of the sandstone deposits.

Wisconsin has more than 80 operating frac sand mine and processing facilities, and Minnesota has six. Local communities within both states have passed temporary bans on sand mining.

Opponents of the Iowa mine will likely ask Allamakee County supervisors to approve a moratorium to allow time to draft rules to protect the environment and public health (Orlan Love, Eastern Iowa Gazette, Oct. 28) -- PK

### **More bumps in the road for state's drilling law**

Energywire Published: Thursday, November 1, 2012

Pennsylvania's new Marcellus Shale drilling law has hit another snag.

State officials are now saying they miscalculated some towns' shares of the state drilling impact fee, and a state judge is ordering an end to ongoing reviews of municipal ordinances.

Gov. Tom Corbett (R) and the state Public Utility Commission last week announced a plan to distribute the \$204 million raised this fall from Pennsylvania's first round of fees. The assessment charged drillers \$50,000 for each horizontal well and \$10,000 per shallower vertical well.

But PUC said Friday that it failed to properly calculate the section of the distribution formula that determines how many dollars are sent to towns based on how many wells are located within 5 miles of their borders.

Commission spokeswoman Jennifer Kocher said the error came to the agency's attention when some towns asked PUC to double-check their payments.

"We apologize for any delay and inconvenience," she said in a statement. "All impact fee disbursements will still be made prior to the legislative deadline of Dec. 1."

Officials are working to determine which towns are affected, Kocher said. She added that the commission plans to immediately mail checks to unaffected towns.

In addition to mandating the impact fee, the drilling law, known as Act 13, also overrode environmental regulations and created zoning standards for drilling. Municipalities have challenged that provision, and a Commonwealth Court panel in July halted one section of the state zoning rules. It left two other sections related to local drilling rules intact, and PUC officials have since been reviewing local ordinances to see whether they comply with the remaining state guidelines.

On Thursday, however, Commonwealth Court Judge Keith Quigley ruled that the July decision prevented Pennsylvania officials from conducting any reviews of local drilling ordinances.

Attorneys for the affected towns say Quigley's ruling means PUC improperly attempted to block the towns' fee payments due to pending ordinance reviews (Laura Olson, Pittsburgh Post-Gazette, Oct. 27) -- PK

### **Court Rejects EPA Appeal Of Ruling Vacating Key Permit 'Aggregation' Policy**

Posted: October 31, 2012 Follow Clean Energy Report

A federal appellate court has rejected EPA's appeal of its landmark ruling rejecting a key part of the agency's test for determining whether emissions from dispersed operations at natural gas and other facilities should be "aggregated" for the purpose of triggering strict major source permits, despite warnings from the agency that the decision could generate "substantial uncertainty."

The U.S. Court of Appeals for the 6th Circuit panel Oct. 29 issued an order denying EPA's motion to rehear the case even though EPA argued that the decision could potentially create heavier permitting burdens for industry and undercut Clean Air Act programs. It is unclear what EPA will do in response to the denial, with observers saying that an appeal to the U.S. Supreme Court is unlikely because there is no circuit split.

However, the denial cements the appellate court's ruling, according to a mandate filed in the suit Oct. 31, formally remanding the issue back to EPA.

EPA sought rehearing from the same 6th Circuit panel that in *Summit Petroleum Corporation v. EPA* vacated EPA's 2008 decision that the energy company's gas sweetening plant and wells located in Michigan constituted a single source requiring a major source permit. The ruling was also largely seen as vacating a 2009 guidance memo from agency air chief Gina McCarthy, which asserted factors that should be considered in determining whether to 'aggregate' emissions from multiple sources, which could subject an operation to more stringent "major" source air permitting requirements.

Under the 2009 memo, EPA outlined three factors -- whether operations are "contiguous or adjacent," whether they are in common control and whether they are part of the same industrial grouping. Unlike an earlier Bush-era memo that stressed physical proximity as the most important factor to determining adjacency, the McCarthy policy allowed regulators to assess whether sources were "functionally interrelated," or dependent on one another, in defining adjacency.

But in its Aug. 7 decision, the 6th Circuit rejected 2-1 the agency's "functional interrelationship" analysis used to support its definition of "adjacency" in making permitting decisions.

Judges Richard F. Suhrheinrich and Eric L. Clay, the majority in *Summit*, also rejected EPA's petition for re-hearing in the Oct. 29 order, which means the determination on the Summit gas plant and its wells is formally vacated and the agency must conduct a new analysis using physical proximity as the sole basis for determining adjacency.

Judge Karen Nelson Moore, who defended EPA's approach to adjacency in a dissent in the Aug. 7 ruling, dissented in the order rejecting rehearing. In her dissent accompanying the ruling, she said the functional

interrelatedness test was "reasonable and therefore entitled to deference."

The rehearing denial comes despite EPA arguments that the ruling could impose more stringent permitting requirements on industry, even as industry and environmentalists have agreed that the ruling has widespread implications and is expected to ease industry's ability to avoid strict Clean Air Act permit mandates. In its Oct. 22 petition, EPA argues that the majority ruling hinders "EPA's ability to apply a definition of a regulated 'source' that is consistent with the purposes of the Act" and could generate "substantial uncertainty -- potentially increasing permitting burdens -- for the broader regulated community regarding the bounds of a single source."

EPA contends in the petition that its decision of whether or not to aggregate emissions for permitting purposes relies in part on how it considers the functional and operational interrelationships among individual emission units in question. Vacating the test, the agency says, will create significant uncertainty for the Title V, prevention of significant deterioration (PSD) and new source review (NSR) programs across all industries, not just for oil and gas operations.

For example, the agency argues that the Summit ruling could actually lead to increased regulatory burdens under the NSR and PSD programs because permitting obligations are triggered by modifications at a source that result in net emission increases. Under the program, facilities can reduce emissions from another unit at that source to balance out emissions increases and avoid the trigger.

But EPA says the vacated "adjacency" definition calls into question whether facilities aiming "to aggregate operationally interdependent facilities as a single source, even when those facilities are at some distance from one another," even though regulated entities have requested such a determination "on numerous occasions."

The agency also argues that the appellate court's determination that the adjacency definition is not entitled to deference, saying the court improperly assumes that EPA relied on interrelatedness as an independent factor. Instead, EPA says it considered the relationship between operations in order to help delineate the scope of the entire source, "a single entity that occupies a defined physical area. . . . It falls fully within EPA's discretion to define the scope of a common physical area that encompasses the source of air pollution."

EPA also says that relying on physical proximity alone will lead to "absurd results," saying that regulators as a result of the vacatur would have to consider a group of oil wells that are located near a series of gas wells and owned by the same operator to be one source although they emit different streams of pollutants. "Such an outcome defies the purposes of the [Clean Air Act] -- which imposes certain permitting and monitoring requirements intended to control air emissions at the level of a 'source' -- and common sense," EPA says.

Additionally, EPA argues in the petition that the majority improperly relied on the plurality opinion in the 2006 U.S. Supreme Court ruling, *Rapanos v. United States* as holding that the term "adjacent" is unambiguous and negates consideration of anything but physical distance, saying the plurality opinion rests on the statutory phrase "waters of the United States," not "some limitation inherent in the general definition of adjacency."

Says EPA, "As this Circuit has recognized, the Supreme Court was unable to reach agreement on the scope of the 'adjacent' wetlands that may be regulated under the Clean Water Act in *Rapanos*, and the fragmented decision therefore provides no clear support for any one conception of that term," EPA says. -- Bridget DiCosmo

### **Sand-mining firm's permit for EC land expires**

Leader-Telegram (Eau Claire, WI) - Thursday, November 1, 2012

Author: Andrew Dowd, The Leader-Telegram, Eau Claire, Wis.

Nov. 01--A company's permit to use land on Eau Claire's northeast side to transfer industrial sand from trucks to train cars expired Wednesday.

Muskie Proppant had the permit for a year and intended to build the transfer site on Anderson Drive but was prevented from doing so by the Eau Claire City Council.

On Oct. 9, the council voted 9-1 against an agreement the company needed to extend a railroad spur on the site and begin operations.

Eau Claire attorney Brian Nodolf, who represents Muskie Proppant, was not available for comment Wednesday.

Following the City Council's vote in October, Nodolf and company officials said they were committed to the site but did not elaborate on their next course of action.

The city Plan Commission granted the company the permit on Oct. 31, 2011, but it automatically expired after a year when operations had not begun. Muskie Proppant could have applied for an extension, but the city's community development director, Darryl Tufte, said the company has not contacted the city since Oct. 9.

If the company still wants to use the site for sand loading, Tufte said, it would have to go through the permit approval process -- including a public hearing -- all over again.

Muskie Proppant proposed trucking sand mined in Pierce County to Eau Claire so it could be loaded onto rail cars that use the Union Pacific railroad.

The company's plans went largely unnoticed by residents until late September. The plan stalled after it failed to garner the approval of eight of the City Council's 11 members Sept. 25. The proposal required the approval of two-thirds of the council.

An Oct. 8 public hearing on the company's plans attracted neighbors of the project who filled the council chamber and voiced concerns about added noise, dust and traffic the loading site would bring to their area.

Sand mined by the company is used in the hydraulic fracturing process -- also known as fracking -- that releases natural gas and petroleum from buried rock.

Dowd can be reached at 715-833-9204, 800-236-7077 or [andrew.dowd@ecpc.com](mailto:andrew.dowd@ecpc.com).

### **Bill Barrett Corporation Announces \$335 million Sale of Natural Gas Assets**

PR Newswire (USA) - Thursday, November 1, 2012

Author: Bill Barrett Corporation

DENVER, Nov. 1, 2012 /PRNewswire/ -- Bill Barrett Corporation (NYSE: BBG) announced today that it has signed a purchase and sale agreement with an affiliate of Vanguard Natural Resources, LLC for the sale of certain of the Company's non-core natural gas assets including all Wind River Basin natural gas producing properties, the Powder River Basin coal bed methane ("CBM") assets and a working interest in its Gibson Gulch-Piceance Basin development property. Total consideration, prior to customary closing adjustments, is \$335.0 million and the transaction is expected to close by December 31, 2012.

Chairman, CEO and President Fred Barrett comments: "We are very pleased to execute this transaction with an affiliate of Vanguard Natural Resources, a step that is very closely aligned with our long-term objectives. I would like to emphasize two key points leading to this transaction. One, the monetization of non-core, lower growth assets is part of a prudent long-term strategy to optimize our portfolio and focus investment dollars in programs that offer the highest returns and best long-term growth profile. Two, based on our allocations, this transaction pegs the pre-sale market value of our Gibson Gulch asset at approximately \$1 billion, which I believe has not been recognized in the market. Proceeds will be applied to debt reduction in the near term and to fund our low-risk reinvestment opportunities."

The transaction includes the sale of an initial 18% working interest in Gibson Gulch that progresses to a 26% interest in 2016, and Bill Barrett Corporation will retain operatorship. The transaction proceeds will



be adjusted at closing from an effective date of October 1, 2012. At closing, the transaction will include in the three areas approximately: 254,000 net acres of leasehold, predominantly in the Wind River and Powder River basins; 239 Bcfe of total proved reserves (based on year-end 2011); and 50 MMcfe/d of projected 2013 production. The Company retains all of its leases in its emerging Powder River Basin Deep stacked oil play. The Company has the right to propose farmouts, under pre-defined terms, on the Wind River Basin properties to leverage the Company's experience in this area for exploration upside potential.

## FORWARD-LOOKING STATEMENTS

This press release contains forward-looking statements, including statements regarding the expected closing of the aforementioned transaction and potential uses of funds. These forward-looking statements are based on management's judgment as of this date and include certain risks and uncertainties. Please refer to the Company's Annual Report on Form 10-K for the year-ended December 31, 2011 filed with the SEC, and other filings including our Current Reports on Form 8-K and Quarterly Reports on Form 10-Q, for a list of certain risk factors that may affect these forward-looking statements.

Actual results may differ materially from Company projections and can be affected by a variety of factors outside the control of the Company including, among other things: oil, NGL and natural gas price volatility; costs and availability of third party facilities for gathering, processing, refining and transportation; the ability to receive drilling and other permits and rights-of-way; regulatory approvals, including regulatory restrictions on federal lands; legislative or regulatory changes, including initiatives related to hydraulic fracturing ; exploration risks such as drilling unsuccessful wells; higher than expected costs and expenses, including the availability and cost of services and materials; unexpected future capital expenditures; economic and competitive conditions; debt and equity market conditions, including the availability and costs of financing to fund the Company's operations; the ability to obtain industry partners to jointly explore certain prospects, and the willingness and ability of those partners to meet capital obligations when requested; declines in the values of our oil and gas properties resulting in impairments; changes in estimates of proved reserves; development drilling and testing results; the potential for production decline rates to be greater than we expect; performance of acquired properties; compliance with environmental and other regulations; derivative and hedging activities; risks associated with operating in one major geographic area; the success of the Company's risk management activities; title to properties; litigation; environmental liabilities; and, other factors discussed in the Company's reports filed with the SEC.

Bill Barrett Corporation encourages readers to consider the risks and uncertainties associated with projections and other forward-looking statements. In addition, the Company assumes no obligation to publicly revise or update any forward-looking statements based on future events or circumstances.

## ABOUT BILL BARRETT CORPORATION

Bill Barrett Corporation (NYSE: BBG), headquartered in Denver, Colorado, explores for and develops oil and natural gas in the Rocky Mountain region of the United States. Additional information about the Company may be found on its website [www.billbarrettcorp.com](http://www.billbarrettcorp.com).

SOURCE Bill Barrett Corporation

### **Dalton, McCrory differ on fracking 's future in NC**

Associated Press State Wire: North Carolina (NC) - Wednesday, October 31, 2012

Author: GARY D. ROBERTSON Associated Press

RALEIGH, N.C. (AP) — On the surface, North Carolina gubernatorial candidates Pat McCrory and Walter Dalton each sound willing to allow a newly sanctioned form of natural gas exploration, but dig a little deeper and they are hardly identical.

Dalton is skeptical anyone will ever drill commercially for the amount of natural gas projected by some under the Piedmont and Sandhills. The sitting lieutenant governor is also concerned the intensive use of chemically-laden water in hydraulic fracturing , or fracking , could stain or parch wells and groundwater

supplies.

"You have to guarantee that it can be done safely. I'm not for it if it can't be guaranteed," the Democrat said at a recent televised debate. "But I have said I'm open to all energy possibilities, and fracking being one."

But McCrory is confident fracking and separate gas and oil energy exploration off the North Carolina coast can be done while protecting the environment. The Republican former Charlotte mayor said the state is missing out on new jobs and revenues because outgoing Gov. Beverly Perdue's administration failed to lay the groundwork for them.

"It's time to quit sitting on the sidelines and borrow policies that have already been in place by Democratic and Republican governors across the nation, implement those in North Carolina and let the private sector determine whether or not there is natural gas underneath our precious ground here," McCrory said.

Environmental and energy groups and the public have been at odds over hydraulic fracturing, which occurs when trapped natural gas within shale rock is collected by injecting a drilled well with chemically treated water mixed with sand. The deep wells can run horizontally, diagonally or vertically.

The state environment department studied hydraulic fracturing and horizontal drilling and found it could be conducted safely in North Carolina if the right precautions are in place.

The Republican-led Legislature in July overrode Perdue's veto of a bill that authorized the drilling but first directed a state panel to write by October 2014 the drilling rules and how residents and the environment will be protected. Legislators must act again before companies can be issued drilling permits, so the next governor likely will be asked to formally weigh in on the issue and oversee a department that could ultimately issue permits.

Libertarian candidate Barbara Howe said companies should be free to explore for energy as long it doesn't involve taxpayer money or tax incentives and companies are bonded for damages. Howe said she would have questions if someone would want to drill under her Granville County property but said that's not a good enough reason to bar it.

"There are risks in anything and if we wait until everything's 100 percent safe, we won't ever do anything," Howe said in a recent interview with The Associated Press.

Even if fracking regulations ensure safe exploration, Dalton said he doesn't think energy companies will drill in North Carolina because of small supplies.

The U.S. Geological Survey estimated this year North Carolina has 1.7 trillion cubic feet of natural gas trapped in shale rock, or less than a six-year supply for the state. In comparison, the northeast Marcellus Shale, which also covers current fracking areas in Ohio and Pennsylvania, contains about 84 trillion cubic feet of natural gas, the survey estimates.

Dalton said any jobs from fracking or offshore drilling would be several years away. But McCrory said jobs would have been around the corner had Perdue and Dalton not dragged their feet.

Dalton has presided over the Senate while lieutenant governor and voted only in case of a tie. Dalton was elected separately from Perdue, who didn't put him in charge of energy policy. The text of a 2011 bill vetoed by Perdue estimated oil and natural gas production could generate 6,700 jobs and would have earmarked future royalties for the state.

Dalton has hinted McCrory's viewpoint on fracking is being influenced by the American Petroleum Institute, who hired a lobbyist that works at the Charlotte law firm where McCrory is also employed. McCrory is neither an attorney nor registered lobbyist and has said he has no clients. McCrory made his support of offshore energy exploration a campaign plank when he ran unsuccessfully against Perdue four years ago, before he joined the law firm.

The fracking panel is not considering action on offshore drilling, which is a federal matter. Offshore Atlantic waters won't be open to lease sales for drilling until 2017 at the earliest. Republicans at the Legislature wanted Perdue to work with other governors to lobby the federal government to hear exploration permits and proposals.

#### **Shale Boom, Part 4: Meetings on shale-related issues scheduled**

New Castle News (PA) - Wednesday, October 31, 2012

Author: Debbie Wachter, New Castle News

NEW CASTLE – Several meetings are planned in Lawrence County to address Marcellus Shale issues.

The meetings address progress, zoning issues and other concerns. The sessions are:

- North Beaver Township – The supervisors will conduct a public hearing at 3:45 p.m. Monday at the municipal building on Mount Jackson Road. Under consideration will be a conditional use request for a natural gas-fired electric generation plant on Edinburg Road. The approval is needed for plans of LS Power of St. Louis to build the plant on the former American Cyanamid property off Route 551.

- The Lawrence County Economic Development Corp. – The agency's annual meeting at noon Nov. 7 will focus on Marcellus On Main Street, an online directory designed to connect local businesses with the natural gas industry. Reservations must be made with the corporation's office by email to orrico@lawrencecounty.com. The meeting is open only to the board and members of the organization. It is not open to the public.

- Pulaski Township – The supervisors will conduct a public hearing at 7 p.m. Nov. 8 at the municipal building on Route 208. Two conditional use requests by Hilcorp Energy Co. for horizontal wells on Route 208 and Valley View Road will be addressed.

- Slippery Rock University – A three-member panel will discuss the ripple effect of Marcellus Shale in the region at a public symposium Nov. 13. The 12:30 p.m. program is part of the university's school of business ongoing examination of Marcellus Shale development in the region. It will be in the Advanced Technology and Science Hall. It is co-sponsored by SRU's school of business advisory council.

Previous programs at the university focused on safety and environmental issues concerning gas well drilling.

The upcoming session will examine potential for job growth, both in positions tied to the drilling, and jobs in related areas, including well servicing, resultant pipeline construction and operations, and opportunities in schools, retail and wholesale businesses and general service industries.

Panelists will be Luke Marsh, Marcellus/Utica program leader with the AMEC engineering firm; Russell Huffmyer, lead project manager with Heckmann Corp.; and Amelia Roncone, general manager with the northeast division of Specialty Oilfield Solutions.

Anthony Cialella, vice president for energy services at Advanced Waste Services, will serve as moderator. Cialella is a member of the advisory council.

According to information provided by the university, estimates of recoverable natural gas trapped in the deep shale deposits have been as high as 500 trillion cubic feet. It's been estimated that up to 211,000 jobs directly and indirectly related to Marcellus Shale will be created in the coming decade as drilling and recovery operations come to the commonwealth.

The drilling process involves standard oil and gas drilling, then adds horizontal drilling and hydrofracturing to release the trapped gas.

#### **Green Field Energy Services Selects Tucson Embedded Systems ' iDECs Units**

PR Newswire (USA) - Wednesday, October 31, 2012

Author: Tucson Embedded Systems

TUCSON, Ariz., Oct. 31, 2012 /PRNewswire/ -- Tucson Embedded Systems (TES) announced today that Green Field Energy Services

recently purchased 25 Industrial Digital Engine Control units known as iDEC for use in turbine-powered pumping equipment used in hydraulic fracturing operations.

(Logo: <http://photos.prnewswire.com/prnh/20121031/LA03866LOGO>)

"Greenfield selected TES's iDEC system because it provides multiple advantages over the diesel-powered pumping equipment traditionally used in our industry including significantly lower emissions, a smaller operating footprint, and greater fuel flexibility," said Rick Fontova, President of Green Field Energy Services.

While iDEC systems have traditionally been used in avionics, the TES iDEC assembly is unique in that it adapts the use of turbines to be used in other industrial settings. In 2010, Tucson Embedded Systems developed and began manufacturing iDEC units for use in turbine-powered pumping equipment used in hydraulic fracturing operations.

"Our patented application of digital technology applied to turbine control systems is the first in the industry to improve efficiency, reduce material costs, regulate and reduce engine emissions and keep innovation and manufacturing in the U.S.," said David Crowe, President of TES. "Through its partnership with TES, Green Field Energy Services is the first company to provide hydraulic fracturing services utilizing turbine-powered pumping equipment."

TES' universal iDEC unit improves drilling extraction methods by allowing turbines to run efficiently on natural gas or diesel fuel.

"Finding and safely harvesting natural gas offers a clean, environmentally safe energy source close to home," said Fontova. "Innovations like TES's iDEC units are crucial to the safe growth and development of the turbine-powered hydraulic fracturing industry."

About Tucson Embedded SystemsFounded in 1997, Tucson Embedded Systems, Inc. (TES) provides, end-to-end development, manufacturing and field placement of industrial software and electronic systems to government and commercial customers. Our mission-driven philosophy drives our core capabilities, which include systems engineering, safety and mission critical software development to FAA DO-178B guidelines, testing/automated testing and independent verification and validation, rapid prototyping and integration, enterprise systems development, printed circuit boards and specialty manufacturing.

Headquartered in Tucson, TES employs more than 90 of the industry's best engineering and analytical professionals to deliver innovative engineering solutions from concept to production into maintenance for mission and safety critical systems. For more information, visit the company's website at [www.tucsonembedded.com](http://www.tucsonembedded.com).

About Green Field Energy ServicesGreen Field Energy Services, Inc. is an independent oilfield services company that provides a wide range of services to oil and natural gas drilling and production companies to help develop and enhance the production of hydrocarbons. The Company's services include hydraulic fracturing , cementing, coiled tubing, pressure pumping, acidizing and other pumping services.

In December 2010, Green Field became the first company to provide hydraulic fracturing services utilizing turbine-powered pumping equipment. The Company believes that its technology provides several advantages over the diesel-powered pumping equipment generally utilized in the industry, including significantly lower emissions, a smaller operating footprint, lower manufacturing costs, lower operating costs and greater fuel flexibility, including the ability to operate on natural gas. Green Field has corporate offices in Louisiana and Texas. For more information visit the company's website at [www.gfes.com](http://www.gfes.com).

**Markets for Produced Water Treatment Equipment Outside North America**

PR Newswire (USA) - Wednesday, October 31, 2012

Author: Reportlinker

NEW YORK, Oct. 31, 2012 /PRNewswire/ -- Reportlinker.com announces that a new market research report is available in its catalogue:

## Markets for Produced Water Treatment Equipment Outside North America

[http://www.reportlinker.com/p01023631/Markets-for-Produced-Water-Treatment-Equipment-Outside-North-America.html#utm\\_source=prnewswire&utm\\_medium=pr&utm\\_campaign=Water\\_distribution\\_and\\_treatment](http://www.reportlinker.com/p01023631/Markets-for-Produced-Water-Treatment-Equipment-Outside-North-America.html#utm_source=prnewswire&utm_medium=pr&utm_campaign=Water_distribution_and_treatment)

### REPORT HIGHLIGHTS

This report provides:

- An overview of markets outside North America for produced water treatment equipment
- Analyses of market trends, with data from 2011, estimates for 2012, and projections of compound annual growth rates (CAGRs) through 2017
- Review and comparison of treatment technologies for removing salts and other inorganic compounds, including membrane processes, ion exchange, and thermal distillation; and removing oil, grease, and other organic compounds, including mechanical separation, flotation, and adsorption
- Discussion of regulatory and other market drivers in oil- and gas-producing regions
- Examination of produced water contaminants and waste types most in need of treatment
- Company profiles of leading produced water treatment equipment manufacturers.

### REPORT SCOPE

#### INTRODUCTION

Until renewable, sustainable sources are fully developed, the demand for fossil fuels will continue to grow. According to the International Energy Agency's (IEA) most recent World Energy Outlook, the production of conventional crude oil, the largest single component of the global oil supply, will remain at current levels before declining slightly, to 68 million barrels per day, by 2035. To offset declining production at existing fields, 47 million barrels per day of additional gross capacity are required. This volume is twice the current total oil production of all Organization of Petroleum Exporting Countries (OPEC) in the Middle East. A growing share of this output (10 million barrels per day) will come from unconventional sources.

The IEA forecasts a bright future, even a golden age, for natural gas, especially for so-called unconventional gas such as shale gas and coal bed methane. Unconventional gas now accounts for 50% of the estimated natural gas resource base. By 2035, unconventional gas is predicted to rise to 20% of total gas production, although the pace of development will vary considerably by region. The growth in output also will depend on the gas industry dealing successfully with the environmental challenges. "A golden age of gas," says the IEA, "will require golden standards for production."

The demand for carbon-based energy is a major market driver for products and services used to treat the water produced during oil and gas exploration and production (E&P). Produced water, the effluent that rises to the surface during E&P, includes naturally occurring water in energy deposits and water injected into formations during drilling processes.

Produced water comprises approximately 98% of the total waste volume generated by the industry. Current global E&P activities generate more than 115 billion barrels per year of produced water. For every barrel of oil, an average of three barrels of water is produced. In the U.S., the water-to-oil ratio (WOR)

averages eight barrels of water to one of oil. On average, for every barrel of oil currently recovered, eight barrels of wastewater are also generated. During the next 15 years, the water to oil ratio is forecast to increase from 8:1 to 12:1. In the worst cases, the WOR reaches 50:1. To dispose of produced water, energy companies pay from \$3 per barrel to as much as \$12 per barrel. With the need to manage such large water volumes, the oil and gas production industry has become as much about water as it is about energy.

In addition to large water volumes and high disposal costs, energy developers using traditional produced water practices are facing increased opposition from environmental activists, local and state governments, and the public. These groups are concerned that the water is leaking from traditional containment pits and entering groundwater and surface water bodies. Historically, produced water has been contained temporarily in pits, and then either transported to treatment plants or evaporated.

During a producing oil well's lifecycle, it initially produces oil along with a small amount of water; but, over time, the percentage of water increases. Throughout the well's service life, the produced water must be separated from the oil it contains. Following treatment, the water may be handled via one of three methods: safely discharged (used mainly in offshore applications), re-injected into the hydrocarbon formation (used in onshore, coastal, or environmentally-sensitive areas) or reused (either to maintain reservoir pressure and enhance heavy oil production or in other beneficial applications). In most world regions and for all of the end uses/disposal options, treated water quality must meet certain standards including low toxicity, high biodegradability, and low potential for bioaccumulation in the food chain.

A number of water treatment technologies and equipment types are commercially available for use at the oil or gas production site. These processes can reduce the cost, inefficiency, and risk associated with treatment pits and the transport of toxic water. The treatment technologies include methods for de-oiling, de-sanding, desalinating, and disinfecting produced water. Numerous systems types are on the market. Among the choices are separators; hydrocyclones; distillation-, ion exchange-, adsorbent- and membrane-based units; as well as proprietary equipment and combinations of equipment.

Some of these products and technologies enable the treatment of produced water to a quality suitable for beneficial reuse. Presently, most of the water reused is employed for reinjection in enhanced oil recovery operations. However, there is also future potential for recycling the water in agriculture or a new source of municipal or industrial water supply, especially where water scarcity is an issue.

## STUDY GOALS AND OBJECTIVES

This report is intended to provide an in-depth analysis of the market for produced water treatment equipment. The study examines market value by world region, by equipment type, and by offshore versus onshore use. The world regions discussed are: the Americas, North America (the U.S., Canada, and Mexico), and Central and South America; Europe, the Asia-Pacific region; and the Middle East and Africa.

The market evaluation by equipment type looks at produced water treatment systems within three broad categories: primary and secondary treatment oil separation equipment (minimizes oil in water content to 25 parts per million [ppm] to 30 ppm), tertiary treatment equipment (further reduces oil in water to less than 10 ppm), and advanced treatment (processes for desalinating produced water and enabling zero liquid discharge).

In the market analysis by hydrocarbon resource, value and growth are evaluated for equipment used in treating produced water from conventional oil and gas production and the development of unconventional resources, such as tight oil, oil sands bitumen, shale gas, and coal bed methane. (For the purposes of this report, tight gas, natural gas that is difficult to access because of the nature of the rock and sand surrounding the deposit, is included in conventional resources.)

Because regulations governing offshore versus onshore produced water discharge differ, the equipment market also is evaluated by that parameter. In addition, the two markets are growing at different rates and are propelled by somewhat different drivers.

Technical and market drivers are considered in evaluating the current value of the technologies and in forecasting growth and trends over the next five years. The conclusions are illustrated with a wealth of statistical information on markets, applications, industry structure, and dynamics along with technological developments.

Because of the diverse and somewhat fragmented nature of the produced water treatment industry, it is difficult to find studies that gather such extensive data from such far-flung resources into one comprehensive document. This report contains a unique collection of information, analyses, forecasts and conclusions that are very hard or impossible to find elsewhere.

## REASONS FOR DOING THE STUDY

Global population growth and economic expansion are driving energy demand, while simultaneously driving significant increases in the demand for water. The challenge of meeting these demands is intensified by the nexus between water and energy. Large volumes of water are consumed to produce and generate energy, while vast amounts of energy are used to treat and distribute clean water. Furthermore, there is growing competition for water from the municipal, agricultural, and industrial sectors, which exacerbates the mounting problem of global water scarcity. These issues pose a significant business risk to oil and gas companies seeking to achieve sustainable growth.

Major water-related challenges facing the oil and gas sector are mature oilfields that increasingly require water-based enhanced oil recovery methods and produce more water over time; growing exploration and production complexity due to emerging unconventional hydrocarbon resources, with their large water needs; and greater environmental and regulatory pressures related to water management and scarcity.

For these reasons, oil and gas companies must view and reevaluate water as a strategic element in their value chain. Water no longer is solely an environmental issue, but is increasingly tied to production growth and cost. As a result, it must be handled through a strategy that recognizes its status as a critical component to ongoing viability in the oil and gas sector.

## INTENDED AUDIENCE

This report is designed to be of value to a wide array of readers. Those expected to have the greatest interest are players already active in oil and gas production and/or produced water treatment. The study will be of value to startup companies with novel water treatment technology, especially for the hydraulic fracturing sector, since that market is still emerging and has no dominant players. Oilfield services businesses should find the report useful for its overview of treatment technologies, which include performance data, as well as capital and operating cost information.

It should be of interest to venture investors, entrepreneurs, and entrepreneurial companies interested in entering or expanding into the produced water treatment sector. Other public and private sector interest groups, market analysts, and general readers wishing to gain broader knowledge of the dynamics of the produced water treatment equipment market also are expected to find the report worthwhile.

## SCOPE OF REPORT

The scope of this report is focused on global produced water treatment equipment for the oil and gas industry. The market is broken down by several different parameters, including world region, equipment type, and produced water source; and offshore/onshore application.

There are a number of expenses related to produced water management, including expenditures for services and equipment for downhole water minimization, for lifting water to the surface, for treatment, for reinjection, and for hauling and offsite disposal. This report will evaluate only oil and gas sector purchases for treatment equipment.

The study covers the industry on a worldwide basis in terms of the manufacture and deployment of

treatment systems. BCC examines government roles in support of global markets, including regulatory support, government requirements, and promotional incentives for various technologies as relevant and available.

## METHODOLOGY AND INFORMATION SOURCES

Both primary and secondary research methodologies were used in preparing this report. Research for this technical/marketing report began with an analysis of available technical and business literature related to sludge treatment. Conversations with industry experts and company representatives provide the backbone for the analysis.

Capital equipment expenditure estimates are based on anticipated future treatment capacity, existing and expected regulatory standards, and alternative

tives for disposing of oil and gas field wastewater.

Both primary and secondary research methods were used in this research study. Internet, literature and patent searches were undertaken, and key industry participants were queried. Growth rates for each market were calculated based on expected revenues from sales of process equipment during the forecast period. Values and forecasts are given in current U.S. dollars. Construction, engineering and design costs are excluded from market size calculations.

## ANALYST CREDENTIALS

During the past 16 years, Susan Hanft has authored more than 35 market research reports for BCC Research in the fields of membrane technology, water and wastewater treatment, and separations used in food and beverage manufacture, medicine, and biotechnology.

### **Proppant Market - By Type (Fracturing Sand, Resin Coated & Ceramic Proppant) - Global Trends & Forecasts to 2017**

PR Newswire (USA) - Wednesday, October 31, 2012

Author: Reportlinker

NEW YORK, Oct. 31, 2012 /PRNewswire/ -- Reportlinker.com announces that a new market research report is available in its catalogue:

Proppant Market - By Type (Fracturing Sand, Resin Coated & Ceramic Proppant) - Global Trends & Forecasts to 2017

[http://www.reportlinker.com/p01022391/Proppant-Market---By-Type-Fracturing-Sand-Resin-Coated--Ceramic-Proppant---Global-Trends--Forecasts-to-2017.html#utm\\_source=prnewswire&utm\\_medium=pr&utm\\_campaign=Oil\\_and\\_Gas\\_energy](http://www.reportlinker.com/p01022391/Proppant-Market---By-Type-Fracturing-Sand-Resin-Coated--Ceramic-Proppant---Global-Trends--Forecasts-to-2017.html#utm_source=prnewswire&utm_medium=pr&utm_campaign=Oil_and_Gas_energy)

Hydraulic fracturing is propagation of fractures through layers of rock using pressurized fracturing fluid. This technique is primarily used in the extraction of resources from low permeability reservoirs such as shale gas, tight gas, and unconventional liquids; which are difficult to recover through regular drilling procedures.

In this process fracturing fluid is used. It consists of water, proppant, chemical additives, and guar gum. Proppant is the most integral constituent of the fracturing fluid after water. Proppant material keeps the generated fractures propped open and helps continued oil and gas recovery.

The hydraulic fracturing market is mainly concentrated in North America; hence the demand for proppant is largest here, many leading oil field service companies operate. Hence, proppant production is also much bigger than rest of the world. All the big oilfield service companies are operating in the U.S. There are several important players in North American proppant market such as Cadre Proppants (U.S.), Momentive (U.S.), Saint Gobain Proppants (U.S.), Carbo Ceramics (U.S.), and many other small companies in frac sand business.



While the North American hydraulic fracturing market is nearly reaching maturity, Rest of the World's (ROW) market is still in its infancy stage. However, ROW has significant share in global proppant manufacturing. Proppants are exported from manufacturing centers such as China, Russia, Brazil, and India to the demand center of North America.

Proppant production in ROW accounts for about 20% of the global production. However, production in this region is expected to grow at a higher CAGR of 15.8% due to two main reasons. First, players in low cost manufacturing destinations such as India and China are expected to multiply due to the export opportunities to North America. In addition, hydraulic fracturing is poised to take off in some countries such as Poland and China. Production is also expected to commence to cater to these new demand centers. The Chinese manufacturers have started to capture the share of the proppant market especially in North America.

Currently, there are three main types of proppants: frac sand, resin coated proppants (RCP), and ceramic proppants. Each proppant type has its own advantages and disadvantages, and reservoir engineers decide on the type to be used depending on geology, availability, prices, and Government regulations.

In 1947, first fracturing was done with fracturing silica sand. Fracturing sand is the basic type of proppant material and is being used since the first fracturing. The R&D on proppant resulted in two comparatively new proppants named resin coated proppants and ceramic proppants. Frac sand is low price untreated sand proppant with lowest conductivity among the three. Ceramic proppants and resin coated proppants are high quality, high strength, and high conductivity proppants; and are used in very low permeability wells or in multiple stages fracturing. Non-grain proppants like CO<sub>2</sub>, N<sub>2</sub>, and LPG are on the horizon but will take long time to get commercialized.

#### Scope of the Report

This report estimates the proppant market in terms of volume and value. This has been broken down into component regions and further split into countries. This report also evaluates the proppant production in various regions by type of the proppant.

On the basis of geography: The report is divided in regions such as Asia-Pacific, Europe, North America; and major countries such as U.S., Canada, China, Russia, and India

On the basis of proppant type: The report divides the proppant by types like fracturing sand, resin coated proppants, and ceramic proppants.

**Link to SAFE website:** <http://www.dontfractureillinois.net/>

Southern Illinoisan (Carbondale, IL) - Wednesday, October 31, 2012

Author: D.W. NORRIS ; THE SOUTHERN

Fracking moratorium finds friendly audience in Carbondale

CARBONDALE - Continued efforts toward a statewide moratorium on high-volume hydraulic fracturing , known as fracking , found a friendly audience Wednesday in Carbondale.

Hundreds carrying anti- fracking signs were met with dozens of horn honks of approval during an informational picket near the city's town square. Energized community members then met for more than two hours during a general assembly convened at the city's civic center by Southern Illinoisans Against Fracturing Our Environment, or SAFE, a grassroots organization determined to keep large-scale fracking out of the region.

Although none were present Wednesday, industry representatives have in the past pointed to job growth and no environmental disasters as positives of fracking .

"Big oil is telling us a big lie,« said Richard Fedder, a member of SAFE.

Fedder said lax federal and non-existent state regulations give the industry a free pass to pollute the environment with a toxic cocktail of heavy metals and other poisons. He pointed to recent reports from Pennsylvania, Ohio, Colorado and Wyoming that he said showed the process of injecting high-pressure, chemical and sand-laced water into the ground to free natural gas from shale leads to water contamination.

Lawyer Penni Livingston backed up Fedder's claim about the problems of regulation, saying the Illinois Department of Natural Resources was ill-equipped to deal with fracking .

"This is the 40th anniversary of the Clean Water Act and we can't enforce it,« she said.

SAFE's Lynn Waters said her group has on its website a 128-page Illinois Environmental Protection Agency report of fracking -related contamination in the state and urged attendees to see for themselves whether the process was safe.

Fedder said plentiful natural gas wells, as many as 16 per square mile, would suck up a trillion gallons of fresh water - enough to fill 18 bodies the size of Rend Lake - over Southern Illinois' 2,300 square miles of drillable shale.

Fedder cautioned landowners against signing mineral rights leases for their properties because oil companies generally have agreements that limit their liability to \$5,000.

"Big oil takes the profits, but takes no responsibility,« he said.

Tabitha Tripp, a SAFE member from Johnson County, said she has already seen ground and water contamination in White County, a natural gas rich area of Southern Illinois.

"What are you willing to do, people?« she asked.

Jackson County Board members Julie Peterson and John Rendleman spoke about the board's support of a statewide moratorium. Peterson said she wanted to see a referendum to ban the process on the next election ballot.

"I don't think the industry is a safe industry,« Peterson said. [dw.norris@thesouthern.com](mailto:dw.norris@thesouthern.com)/618-351-5074  
On Twitter: @DW\_Norris\_SI

### **Bradshaw, Bigler stand with anti- fracking activists**

Southern Illinoisan (Carbondale, IL) - Wednesday, October 31, 2012

Author: D.W. NORRIS ; THE SOUTHERN

CARBONDALE - Paula Bradshaw and Michael Bigler had a message for attendees of an anti- fracking rally Wednesday in Carbondale: We stand with you.

Bradshaw, running as a Green Party candidate in the 12th Congressional District, and Bigler, a Democrat running the state's 58th Senate District, offered full-throated support of efforts toward a statewide moratorium on the high-volume hydraulic fracturing process to draw natural gas out of the region's shale deposits.

The rally was sponsored by Southern Illinoisans Against Fracturing Our Environment.

Bradshaw said the oil and gas industry sells a bill of goods to people desperate for jobs. Instead, people are left with "health problems, flammable water, dead animals and fish.«

"We don't want that here in Southern Illinois,« she said. "Not to mention, but I will, that the promise of jobs is empty.«

Bradshaw said most industry jobs go to outside workers, and the industry does not tell people about jobs lost because of damage to property, wilderness, farmlands and areas for hunting and fishing.

"They don't calculate the economic losses that will follow when our water, soil and air are contaminated, including health care costs," she said. "They don't calculate the added tax burdens to repair roadways for the constant traffic of the army of trucks that always accompany fracking, and the health care costs of truck versus car collisions."

Bradshaw said people should not view fracking as a jobs versus environment situation because "far more jobs could be created by protecting the environment by investing money instead on renewable energy and sustainable transportation."

Bigler said the environmental impact of fracking was one reason why he promised to stand with those who seek a moratorium.

"It's the water that I'm mainly concerned about because water is going to be the next oil," he said.

Bigler, from Anna, is running against Republican Dave Luechtefeld, a state senator and retired school teacher from Okawville who supports hydraulic fracturing.

Bradshaw is an emergency room nurse and activist from Carbondale. She is running against Democrat Bill Enyart, an attorney from Belleville and a recently retired major general who commanded the Illinois National Guard, and Republican Jason Plummer, a businessman, former candidate for lieutenant governor of Illinois and an intelligence officer in the Navy Reserve.

Plummer and Enyart support fracking to meet energy needs. Bradshaw said it would be too late to change either of her opponents' minds if they were elected to Congress.

dw.norris@thesouthern.com/618-351-5074 On Twitter: @DW\_Norris\_SI

### **Some fret Sandy may breach storage pits for fracking**

Abilene Reporter-News (TX) - Tuesday, October 30, 2012

WASHINGTON — As Sandy lashed the Eastern Seaboard this week, some environmental groups raised concerns that the superstorm's brute force could overwhelm feeble storage pits adjacent to fracking sites.

In turn, critics said, that could allow the unintended release of toxic materials from the oil and gas hydraulic fracturing operations into streams and farmland in West Virginia, Pennsylvania, and Ohio that were hit by Sandy.

Industry groups say they hunkered down for the storm before it reached land Monday and were well prepared to keep the waste quarantined. They dispute any accusation from critics that they cut corners in securing toxic fluids.

At issue are the storage sites holding chemicals near the wells. Fracking involves pumping millions of gallons of water and additives into underground rock formations to release deposits of oil or natural gas.

Much of the toxic fluid returns to the Earth's surface, and the brew is often stored nearby, as are other liquids used in the fracking process.

Sometimes the man-made pools holding these fluids fail, resulting in the release of poisons.

The concern now is that gusting winds and torrential downpours from Sandy could trigger the breakdown of barriers.

"The test will be the evaluation post-storm to see are there any new major problems that can be traced back to this storm?" said Brook Lenker, executive director of FracTracker Alliance, a nonaligned group that collects data on hydraulic fracturing.

The practice of fracking has mushroomed in the past decade, breathing life into the domestic energy industry.

Some say that drilling companies don't always properly quarantine the waste and toxic materials associated with fracking , increasing the chances that those materials may slip from holding pools into the environment.

"There's a lot of chemical or toxic waste stored on the site that could run off into a stream, river, farmland or other vulnerable area if there isn't sufficient spill prevention or containment in a place," said Amy Mall, a senior policy analyst and fracking critic at the Natural Resources Defense Council, a New York-based environmental advocacy group.

She thinks all fluids stored on-site should be held in closed tanks, as opposed to less-secure open-air pools, as is common.

But the oil and natural gas industry says they're prepared to handle the effects of a major storm. "Our operators have in place exhaustive contingency plans related to severe weather conditions," Kathryn Klaber, president of Marcellus Shale Coalition, a gas industry lobbying group, said in a statement.

"The safety of our workers and communities is paramount ... as our attention is focused on the environmental, health and safety protections associated with our industry operations and the communities we call home," her statement said.

But Mall says the industry isn't doing all it can to keep from making a mess, and she points to a recent federal report.

In fiscal 2011, agents from the federal Environmental Protection Agency inspected 120 oil well and gas well sites for spill prevention preparedness.

#### **Ex-mayor, activist face off over Longmont fracking ban**

Daily Times-Call, The (Longmont, CO) - Tuesday, October 30, 2012

Author: Scott Rochat Longmont Times-Call

LONGMONT -- Former mayor Roger Lange said Tuesday that an anti- fracking ballot issue would close off negotiations and open up costly problems, while proponent Michael Bellmont charged that the lack of a ban would prove more expensive to residents.

With one week to go before Election Day, the two men pitched their cases for and against Ballot Question 300 to the Rotary Club of Longmont. If passed, Longmont's charter would ban hydraulic fracturing and the storage of " fracking " waste within city limits.

"There's a time and place for everything," said Michael Bellmont of Our Health, Our Future, Our Longmont. "And the place for this is not in the densely populated areas of our fair community."

Locking a ban in the charter made no sense, Lange said, especially with hints that Gov. John Hickenlooper might be willing to negotiate on the city's new oil and gas regulations. The rules, which include a drilling ban in residential zones, drew a state lawsuit in July.

"I don't want this discussion to end next Tuesday because of question 300," Lange said. "If 300 passes, it's law, it's over. End of discussion."

Our Longmont put the question on the ballot after saying the city's new rules weren't enough. During the months of discussion, several of the group's members had urged the City Council to ban fracking , which uses high-pressure fluid to crack rock thousands of feet below the earth's surface and open up pockets of oil and gas.

Opponents of the practice claim it risks tainting groundwater and polluting the air. Simply living within half a mile of a well, Bellmont said, raises a person's cancer risk by about 60 percent. (The study, by the Colorado School of Public Health, found the overall cancer risk went to 10 in a million instead of 6 in a million.)

And though oil and gas money may have helped keep Weld County debt-free, Bellmont said, Longmont can't expect the same benefit.

"Weld County has 3,000 square miles versus our 22, but our budget is larger," he said. "We would have to have more wells than they do, and they have about 19,000 wells."

Lange said the real worry was the bust, not the boom. Not only would Longmont draw a second lawsuit from a ban, he said, it would have to buy out mineral rights-holders who had seen access to their property cut off.

"I think the question is down to money, what we can afford and what we can't afford," Lange said.

"You can drill at the city limits and get to 99 percent of the minerals," Bellmont said. "Nobody's taking anything."

Bellmont said that if the ban proved expensive, a special election could repeal it. Lange said ordinances were more flexible than charter amendments and better for dealing with oil and gas issues. He also questioned how much risk there really was.

"Fracking is a national practice," Lange said. "I can't believe the EPA wouldn't be shutting down the process that's going on in our country right now."

The election is Nov. 6.

Scott Rochat can be reached at 303-684-5220 or [srochat@times-call.com](mailto:srochat@times-call.com).

Caption: Photo: Former Longmont mayor Roger Lange listens as Our Health, Our Future, Our Longmont spokesman Michael Bellmont talks about Ballot Question 300 during the Rotary Club of Longmont meeting at First Evangelical Lutheran Church on Tuesday.

Photo: Our Health, Our Future, Our Longmont spokesman Michael Bellmont talks about Ballot Question 300 during the Rotary Club of Longmont meeting at First Evangelical Lutheran Church on Tuesday

Photo: Our Health, Our Future, Our Longmont spokesman Michael Bellmont, left, listens as former Longmont mayor Roger Lange talks about Ballot Question 300 during the Rotary Club of Longmont meeting at First Evangelical Lutheran Church on Tuesday.

### **Rally against fracking Tuesday**

Marion Daily Republican, The (IL) - Monday, October 29, 2012

Author: Dixie Terry; For the Daily Republican

CARBONDALE - Southern Illinois Against Fracturing our Environment (SAFE) will conduct a rally on Tuesday, Oct. 31, in Carbondale. The gathering will be at 5 p.m. on the historic town square, near the intersection of Illinois 13 westbound and U.S. 51 northbound.

Seemingly, from past informational meetings, the general public has seemed minimally interested about the process called "fracking", a shortened version for hydraulic fracturing.

In August, public informational meetings were held in Harrisburg, Carterville and Vienna.

These free programs were provided by the University of Illinois Extension that serves the southern 16 counties and the Farm Bureaus of the 12 southern counties.

The seminars drew mostly farmers and rural land owners and were provided "for educational purposes only, with none of the data given to be considered as legal advice".

Very few area residents, other than the agriculturally related, are aware of what fracking includes. The procedure is a drilling process for oil or gas, by injecting water, sand, and chemicals, both safe and toxic, into the ground. This releases the fuel, along with natural radioactive and poisonous materials, according to SAFE.

At an informational meeting held earlier this month at the Carnegie Library in Marion, nine citizens viewed the anti-fracking film, "Split Estate," a documentary filmed in the western states. The showing was provided by Liz Patula, Springfield, co-founder of the grass roots movement SAFE.

"We aim to make locals aware that with fracking set to begin in Southern Illinois, there is a concern about the effects it will have, from potential water, air, and soil pollution," Patula said.

SAFE contends that fracking will destroy local water supplies with each drilling for a single well using as much as 30 million gallons.

"All the wells combined could empty Lake of Egypt more than 60 times," a handout stated.

SAFE also says out that fracked water, called flow back, cannot be purified or made usable. They also say there are possibilities of accidental spills into the environment, reduced property values, possibly deadly air and soil pollution and the future inability for agricultural development of the fracked property.

However, Illinois Field Director for Energy in Depth, Kyna Legner, said the film, "Split Estate" is inaccurate.

Patula stated that a Congressional report revealed that 652 of the 750 chemicals used in fracking, contained a compound of concern.

The fracking procedure, which was developed by the Halliburton Corporation in 1949, is a highly costly procedure.

But with gas costs as high as they are, the process is feasible.

One Williamson County landowner who didn't want her name used owns a five-acre parcel adjacent to a several-hundred acre farm, and said she is very concerned.

"The landowner next to me is already leasing his acreage to an oil company," she said. "Where do we turn for information? The politicians are apparently ignorant of what fracking does."

"Food and Water Watch" in Washington, D.C., offers additional information at <http://www.foodandwaterwatch.org>. Tuesday's public rally will feature guest speakers, presentations, networking, and refreshments.

### **Man-made quakes by drilling and fracking new report**

New Orleans Examiner (LA) - Monday, October 29, 2012

Drilling wells can cause earthquakes, that is, human-made quakes, according to a new study that says the strongest quakes are associated with deep-injection wastewater disposal wells. Experts also now agree fracking can cause quakes, both of interest regarding the increase in quakes throughout the country.

A new study report about man-made earthquakes by drilling and fracking is of special interest regarding the Bayou Corne's sinkhole disaster area in Assumption Parish, a potential new south Louisiana catastrophe.

Human-made activity triggers quakes

Environmental modifications (ENMOD) by drilling even simple water wells is directly linked to man-made seismic activity, according to a new study.

"Understanding how human-made activity triggers quakes" is important, Cornell University geophysicist Rowena Lohman recently said, referring to what the UN calls environmental modification techniques.

"Environmental modification techniques' refers to any technique for changing - through the deliberate manipulation of natural processes - the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space," states the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques. (United Nations, Geneva: 18 May 1977)

Humans dump hazardous waste into Class II injection wells to save money for companies that are changing the dynamics, composition and structure of the Earth.

Near Louisiana's Assumption Parish giant and expanding sinkhole, Houston-based Texas Brine company had been authorized by the Louisiana Department of Natural Resources (LDNR) to inject into the company's leased well in Napoleonville Salt Dome, hazardous waste including radioactive waste from oil and gas industry operations.

The well had problems in early 2011, was sealed and abandoned. After two months of locals experiencing seismic activities and observing methane bubbles percolating in nearby bayous, a large sinkhole emerged and has been expanding almost weekly ever since, with chunks of land and swamp trees falling into it. It is now the size of five football fields.

Seismometers picked up thousands of earthquakes (being called "tremors") in the Assumption Parish sinkhole disaster area since June, according to seismologist Dr. Stephen Horton.

Earthquakes felt in the parish's Bayou Corne, Grand Bayou and Pierre Part communities, each of which are over the 1-mile by 2-mile Napoleonville Salt Dome, were stronger than usual last week. The seismic activity was recorded in the vicinity of Texas Brine's waste cavern, now known to be breached, in the salt dome that is also collapsing. Now, the outer edge of the salt dome is "gone" after a "frack-out" occurred, according to officials last week.

"Seismic issues have most commonly been linked to injection wastewater disposal wells, the accepted disposal method for wastewater generated from fracking," the Times reports,

Strongest earthquakes are associated with deep-injection wastewater disposal wells, with magnitudes in central and eastern United States around magnitude 5 or less, according to David McIntyre, public relations officer for the U.S. Nuclear Regulatory Commission (NRC) this weekend.

A deadly quake in Spain last year was linked to area farmers drilling deeper and deeper wells to water crops, the study reports.

Nine people died and nearly 300 were injured when a 5.1-magnitude quake hit the city of Lorca in May last year. Scientists found a fault running near a basin was weakened by 50 years of extracting groundwater in the area.

In 2011, a 4.0-magnitude earthquake in Youngstown, Ohio was linked to an injection well operated by D&L Energy.

According to an August 2011 Oklahoma Geological Society report, nearly 50 quakes in Garvin County, Okla. were linked to a nearby fracking well. They registered from 1.0 to 2.8 on the Richter scale, most within about two miles of the well.

"An important distinction in the case of induced seismicity or earthquakes are generally those cases where there are underground Class II injection wells," said Mark Engle, a U.S. Geological Survey research geologist.

"Class II injection wells accept waste specifically from oil and gas production," he said.

"There are tens of thousands of injection wells in the United States. So in the case of induced seismicity, these are wells that are taking in fluid constantly, injected with fluids for a period of time - months, years,

decades.”

"With injection wells, fluid can migrate into nearby fractures and fault zones that relieves pressure inside the fault and allows slippage to occur," stated Engle.

"This is a very different process in general than hydraulic fracturing ," he said, explaining that it is fracking , but the fluids are then pulled out.

"You do inject fluid (in fracking ) for a period of time, but then it's essentially pulled back out," said Engle.

[See: Sinkhole state-ordered fracking -type process might be causing quakes]

Fracking can also cause small-magnitude earthquakes, experts say.

"NRC is aware of research linking hydraulic fracturing with small to moderate earthquakes," Engle said.

According to the NRC, frack quakes would not be high enough magnitude that would likely disrupt or damage a nuclear power plant.

Drilling wells are more likely to cause earthquakes more than fracking , according to Engle.

"To the best of my knowledge, there has not been a link to hydraulic fracturing and a sizeable earthquake, as opposed to injection wells," Engle said.

In April, a USGS study report showed oil and gas drilling might explain the sharp increase in mid-United States earthquakes. The rate jumped sixfold from the late 20th century through 2011.

The USGS research team reported that those changes were "almost certainly man-made."

It is possible that injected fluids change friction and stickiness of minerals on fault lines. Another concept is they change below-surface pressure because the fluid is trapped and builds, and then "sets off something that's about ready to go anyway," Lohman said.

In early October, three unusual quakes shook a west Dallas suburb. The quake was linked to wastewater disposal from local hydraulic fracturing operations, according to a geophysicist who has studied earthquakes in the region.

"I don't like it one bit," said Jimmy Taylor, a jolted Dallas suburb resident. "We never had them before until they started doing the fracking in the area."

ENMOD conspiracies, investigations, lawsuits, federal charges

In 2006, the Railroad Commission fined a Wise County injection well operator for dumping water from a firefighting operation and "25 barrels of an unknown chemical" into an injection well.

In 2007, the owner of a hazardous waste transport company and his operations manager faced federal charges for their roles in a conspiracy to illegally transport and dispose of hazardous waste underground.

"Their alleged misuse of an underground injection well may have contaminated drinking water," reported Environmental News Service.

The men were arraigned in U.S. District Court in Houston and charged with 14 felony counts including conspiracy, violating the Safe Drinking Water Act and the Resource Conservation and Recovery Act that regulates storage, transportation and disposal of hazardous wastes.

That investigation was conducted by EPA's Criminal Investigation Division, Texas Environmental Task Force, Houston Police Department, and the Department of Transportation, Office of Inspector General.



The prosecution was managed by the Justice Department's Environmental Crimes Section.

Lawsuits have been and more are being filed against entities involved in the Bayou Corne sinkhole disaster.

### **Political Panel; Interview with Robert, Edward Skidelsky; Debate on Fracking**

CNN - Sunday, October 28, 2012

Show: FAREED ZAKARIA GPS

Author: Fareed Zakaria, Candy Crowley

FAREED ZAKARIA, CNN HOST: This is GPS, the Global Public Square. Welcome to all of you in the United States and around the world. I'm Fareed Zakaria.

The debates are done. The race is heading for the final stretch and it is still all about the economy. So we'll start with a great panel to talk about the American economy. What is actually going on?

Then, you've often heard that fracking is controversial. Why? We have a debate to help you think it through.

And do you think you have enough money? What would be enough? We'll have a fascinating discussion on the subject with Lord Robert Skidelsky, Britain's most prominent economy historian, on how to answer those questions.

And why in the world did the nation of Mali get more mentions in this week's foreign policy debate than Japan, Mexico or all of Europe?

But, first, here's my take: The International Monetary Fund's latest World Economic Outlook makes for gloomy reading. Growth projections have been revised downward almost everywhere, especially in Europe and the big emerging markets like China.

And yet, when looking out over the next four years, coincidentally the next presidential term, the IMF projects that the United States will be the strongest of the world's rich economies.

U.S. growth is forecasted to average 3 percent, much stronger than that of Germany or France at 1.2 percent or even Canada at 2.3 percent.

Increasingly, the evidence suggests that the United States has come out of the financial crisis of 2008 in better shape than its peers because of the actions of its government.

Perhaps the most important cause of America's relative health is the Federal Reserve. Ben Bernanke understood the depths of the problem early and responded energetically and creatively.

The clearest vindication of his actions has been that the European Central Bank, after charting an opposite course for three years with disastrous results, has now adopted policies similar to the Fed's and, thus, averted a potential Lehman-like collapse in Europe. Kenneth Rogoff and Carmen Reinhart, the leading experts on financial crises, argue that the United States is performing better than most countries in similar circumstances in history.

Consumers are paying down debt and consumer confidence is at its highest levels since September 2007. Every American recovery since World War II has been led by housing, except this one.

But, finally, housing is back. Two weeks ago, Jamie Diamond, the chief executive of JP Morgan Chase, declared that housing had turned the corner and predicated that, as a consequence, economic growth in 2013 would be so strong that the Fed would have to raise interest rates.

Corporate profits are at an all-time high as a percentage of gross domestic product and companies have \$1.7 trillion in cash on their balance sheets.

American exports, which have climbed 45 percent in the past four years, are at their highest level ever as a percent of GDP.

The key to long-term recoveries from recessions is reform and restructuring and U.S. businesses have been quick to respond. Government intervention, believe it or not, has assisted this process with banks, with auto companies and even in housing.

Banks had to undergo stress tests and had to raise capital. The Economist Magazine, which had initially opposed the auto bailout, reversed itself because of the manner in which General Motors and Chrysler were forced by the government to cut costs and become competitive.

Now, all these good signs in the economy come with caveats. Europe continues to weaken, the fiscal cliff looms ominously. But compared with the rest of the industrialized world and with the arc of other post bubble recoveries, the United States is ready for a robust revival.

This is partly because of the dynamism of the U.S. economy, but also because of the timely and intelligent actions of the Fed and the Obama administration.

The next president will reap the rewards of work already done. So it would be the ultimate irony if, having strongly criticized almost every measure that contributed to these positive trends, Mitt Romney ends up residing over what he would surely call the Romney Recovery.

For more on this, go to [cnn.com/fareed](http://cnn.com/fareed) for a link to my Washington post column and let's get started.

Let's get straight to our terrific panel to talk about the economy and, obviously, a little politics as well. Joe Klein is Time's political columnist.

Amity Shlaes is director for the Four Percent Project at the George W. Bush Institute and the author of the forthcoming, "Coolidge: A Biography of America's 30th President.

Ken Rogoff, whom I just mentioned, is a Professor of Economics at Harvard University and Chrystia Freeland is the editor of Thomson Reuters Digital and the author of the new book, "Plutocrats."

Welcome back to all of you.

So, Ken, the piece I mentioned, you wrote a -- you and Carmen Reinhart wrote a piece almost trying to correct what a couple of Romney advisors have written about how the U.S. was doing.

And you said, look, compared with other big financial crises that lead to recessions, we're actually doing pretty well. Fair?

KEN ROGOFF, PROFESSOR, HARVARD UNIVERSITY: Yes, that's a fair characterization of what they said and what we said. I mean it's fair game to say we can do better, we have a plan where the economy's going to grow better.

But if you're going to evaluate what happened, was it a bad recovery, was it a good recovery, I think you have to compare it to deep financial crisis.

This was not a plain vanilla recession and you have to compare it to deep financial crises we've had in this country, which don't happen very often, and other countries around the world.

And if you go by that metric, the United States has not done so badly. I mean I think part of the argument is they say well, we're not growing that fast now. But the other side of the coin is we didn't fall that far at the beginning.

I mean what people are really interested in is are we better off than we were four years ago and not did we get a lot better in the last year having sunk mightily.

So I think that was sort of what the debate was about. Carmen Reinhart nor I have been backing either of the candidates nor advising them privately.

But we felt that -- especially since our work we being cited again and again and again, not just in op-eds, but in press briefings that we heard back from, we just felt we had to set the record straight.

ZAKARIA: Fair to say we're doing pretty well compared to other countries in similar situations?

AMITY SHLAES, DIRECTOR, THE FOUR PERCENT PROJECT AT THE GEORGE W. BUSH INSTITUTE: Well, you -- we're better than the worst. Is that good enough? That would be the question. What's interesting is about what Ken is saying is deep financial crisis, yes, it is part of a great pattern that he and Carmen have analyzed and highlighted.

However, our deep financial crisis -- it sounds a little exonerating, doesn't it? Deep financial crisis, nothing the average person could do about it, it has to do with political policy.

For example, vis-a-vis, housing, if our federal government hadn't guaranteed all housing everywhere both through Fannie Mae and Freddie Mac, the FHA and so on, we would have had less of a crisis.

The whole world believed in our housing. So I disagree just with the exonerating tone. This was the result of policy that voters supported that was erroneous. It wasn't inevitable.

ROGOFF: Yes, but a lot of it happen before, you know -- earlier I mean, to be fair.

SHLAES: Right, but it was -- no, no, it wasn't inevitable like weather.

ROGOFF: Right.

SHLAES: We tend to -- when you talk about financial cycles as kind of, oh, that's the weather, we can't do -- this was a result of policy by both parties.

ZAKARIA: Chrystia?

CHRYSTIA FREELAND, EDITOR, THOMSON REUTERS DIGITAL: Well, sure, that's absolutely true, but it's not -- it is policy by both parties. So Republicans, of course, like to talk about the housing, which Democrats were very supportive of, wrongly I believe.

But Democrats like to talk about and they should talk about bank regulation. And, you know, if you want to talk about regulatory failure, if you want to talk about government failure, surely the deregulation of the financial sector up to 2008 is one of the great moments of failure.

ZAKARIA: But, Joe, let me ask you a question about the politics of this. Whether or not, you know -- will voters really understand the Ken Rogoff argument that this is a, you know, deep financial crisis causes overleveraged consumers and balance sheets get out of whack and it takes a while before all this straightens out.

They're just looking at it and saying Obama's been president for three years and he hasn't fixed anything.

JOE KLEIN, POLITICAL COLUMNIST, TIME MAGAZINE: I think that's right, but I think that they might understand it if it were Bill Clinton explaining it to them.

I think that Obama really has been awful at explaining his policies and explaining the state of the economy for the last three or four years.

SHLAES: I'd like to just say, again, policies do matter deeply. Example, for the viewer, next year it's predicated we'll go into recessions again if the fiscal cliff is not addressed and we do go over it. These are

decisions that have to be made by lawmakers before Christmas time or the New Year in regard to tax and sequester and spending.

It's there in the books and it's probably accurate. I think we've let ourselves off the hook when we compare ourselves to Europe. It's not so great just to be less bad than the others which is where we are.

ZAKARIA: So there's a lot there. Let's talk about the fiscal cliff. Is it going to happen?

KLEIN: No, it's not. I mean, you know, I've been doing this for 43 years and I suppose I should be a cynic by now, but I'm not.

I'm very optimistic that this is going to be handled because a good part of the blockage was the fact that Mitch McConnell set, as his goal, the fact that Obama wouldn't be reelected.

Now, if Obama gets reelected, that blockage is passed and John Boehner is going to have to think about his future as speaker, whether he wants to stand with his Tea Party or whether he wants to stand with the vast, moderate majority of people in this country who believe that there has to be some revenues and there have to be some cuts and there have to be some entitlement reforms.

There's a rational, sane, middle road out there and if Romney wins, then he will have to deal with the Democrats in the Senate, which he'll want to do.

And he will have to say to his right wing, as he has implicitly over the last three or four weeks, that no, guys, we're not going to have this extreme policy.

And as for tax rates matters, I mean I think we all lived through the great depression of the 1990s after Bill Clinton raised taxes and the great depression of the 1980s after Ronald Reagan raised taxes, especially on business, three times.

ZAKARIA: All right, we're going to have to stop ...

(UNKNOWN): Do we do (inaudible) about that?

ZAKARIA: No, we're going to have to stop, take a break. When we come back, we'll talk, inevitably, about all this, but also going forward what's going to get this economy moving again.

(COMMERCIAL BREAK)

ZAKARIA: And we are back with Joe Klein, Amity Shlaes, Ken Rogoff and Chrystia Freeland.

So, term two, for whoever it is, a term two for Obama, a term one for Romney, Chrystia, what do you think will get America growing at 3 percent or more? FREELAND: Well, let me pick up on what Joe has said and tell you what is the truth that dare not speak it's on Wall Street right now and behind, actually, I think, a lot of the Wall Street support for Romney.

I think a lot of people on Wall Street are hoping and they actually believe that if Romney were elected, he would discover his inner Dick Cheney.

And that the way that the fiscal cliff would get ...

ROGOFF: That's a frightening thought.

FREELAND: Right, no, and the way the fiscal cliff would get resolved is that Romney would say yes to tax cuts and would say actually deficits don't matter right now, let's make growth a priority and because it was a Republican president that, therefore, you would have the Congress much more willing to go along.

Wall Street, at this moment, would see that as a very positive scenario, sort of stimulus by stealth.

ROGOFF: What I worry about is that neither candidate's really, if they win, going to get to execute their vision that they're going to be having -- you know it's like you marry someone, but there are a lot of unruly relatives you never quite realize were there and, you know, coming out of the woodwork.

And I worry -- I actually think both men acquitted themselves quite well in the debates. But the point is they're in this larger environment of what is going to go on.

And I worry we're going to see muddling through instead of clear-cut tax reform, clear-cut infrastructure program, clear-cut ways to improve education.

ZAKARIA: Joe, when you traveled around, I remember this was a couple of years ago, you did a --

KLEIN: I do it every year.

ZAKARIA: But you did a series of wonderful articles. I think it was before the midterms for Time in which you said, you talked to a lot of the Midwest middle class and you found that the -- China came up ten times as often as Afghanistan.

KLEIN: Twenty.

ZAKARIA: Twenty times as often as Afghanistan. And when you look at the -- what an average, middle class, American family is facing, particularly kind of, you know, working people who work in factories, they're up against probably a generation of this kind of wage competition and possibly wage deflation because of China and things.

Do you -- what do you think happens to the politics of America if that middle class is not appreciably five, six, eight years from now?

KLEIN: Well, we're heading toward, I think, a demographic period of real difficulty as the white majority declines. And there's a fear of -- out in the middle of the country of this new America that's emerging that is so multicultural, multiethnic.

But I do think, you know, once again, I'm going to be slightly optimistic here because, you know, you and I have both written about this, we're finally beginning to understand what hasn't worked in education.

The idea that college is appropriate for everyone hasn't worked. There is a major movement on in the country to match people skills with the jobs that are out there. Vocational education's making a big comeback.

And I think that even as manufacturing jobs begin to return because our energy costs are going to be lower and labor costs are rising in Asia, I think that those are going to be skilled manufacturing jobs.

And we're on the brink now where we can figure -- we're beginning to figure out how to rejigger our education in order to meet the economy of the future.

FREELAND: I'm, sadly, going to be a little more pessimistic than you, Joe. And I think, Fareed, you have asked the most important question.

I am less worried about structural unemployment, but I am really worried about structural lousy jobs as there's a great economic paper about the lovely and the lousy jobs.

And I'm really worried that we're ending a period of structural lousy jobs. And these can be manufacturing jobs, but they're just not paying the same money that they paid. Forget about the 1950s, they're not paying what they were paying 10 or 15 years ago.

And I think we are entering a period, precisely as you say, because of this global labor market, where

there is going to be a big chunk of the middle class that are the working poor.

They're going to have jobs. They're going to have jobs that we consider to be good jobs. They will have had the vocational training, but they will not be making enough money to feel good, to feel comfortable.

And what that does to the politics I think you already see. I think it makes the politics much nastier, much more divisive. There is much less a belief that you can have compromise. So I think it's quite a frightening prospect.

ZAKARIA: Amity, another big challenge, no matter who's elected, is going to be at some point we have to deal with entitlement spending. Do you think there is the political will, on either side, to actually cut spending, particularly entitlements, which is the big piece of it, not just ...

SHLAES: Oh, I actually do. I mean if we all sat here over one afternoon, we could come up with a Social Security compromise that reflected the impulses in all political parties.

Sometimes, I think we blow up, especially Social Security, we make it seem harder than it is. It's not that hard. So ...

KLEIN: So the Medicare one ...

ZAKARIA: It's economically easy, but politically.

SHLAES: It's -- right, so we need -- it's our job to convey to the viewer that it's economically easy to fix Social Security.

And if a politician tells you otherwise, from either side, that it must all be privatized or it cannot be touched because it's a Democratic holy cow, they're exaggerating so one is to view that as not insurmountable.

The health care is much more complex. But I want to mention that we all -- you know, we're talking in this very narrow band. We're concerned about Michigan, (inaudible) notwithstanding, or because of the auto bailout the unemployment is what, it's over 7, it's more like 9, the Midwest in the future there.

And just to widen our band, I'd like to offer what would happen, Dr. Rogoff, Ken, whom I admire so much, if we cut the capital gains tax to 2 percent in the United States, we would all fall off a cliff of deficit or would the U.S. grow faster and obviate some of the problems you've so well described?

ZAKARIA: All right. And that's the final word.

ROGOFF: Well, I think the answer is if we had a tax simple vacation where that issue was taken off the table is the best idea and it's outrageous that a lot of things get disguised as capital gains that are really income creating the biggest inequality.

SHLAES: so you say raise capital gains, for example, for hedge funds?

ROGORF: OH, if we didn't change anything else, absolutely. That is just criminal.

ZAKARIA: One point of agreement. Ken Rogoff, Joe Klein, Amity Shlaes, Chrystia Freeland, thanks for joining us.

Up next, What in the World. Why a little known nation, Mali, is more important than Europe, Mexico and India combined, at least according to this week's presidential debate. I'll explain.

(COMMERCIAL BREAK) ZAKARIA: Now, for our What in the World segment. In the final presidential debate, the one on foreign policy, it was interesting to note the countries that got a mention.

Iran was cited 47 times, of course, Israel 34 times and China 32 times. It was also telling there was only

one mention each of Europe and Africa and none at all of India.

But I was struck by the amount of play one small country got, one that doesn't usually register on Washington's foreign policy radar, land-locked Mali, with a population of about 15 million and a GDP 1 percent that of Mexico's.

Why Mali? Here's the story, briefly. Racial Islamist groups have taken control of as much as 2/3 of Mali's territory this year, including the historic city of Timbuktu.

Among these groups is al-Qaeda and the Islamic Maghreb said to have been involved in last month's attack on the U.S. consulate in Benghazi, Libya.

Together, these radical outfits have tormented Mali. They have destroyed historic shrines, imposed a draconian version of Sharia law and gone as far as stoning and beating people who come in their way.

Now, Mali was once considered one of the few stable democracies in Africa and Mali's capital, Bamako, would normally have been able to counteract these insurgents.

But the government tripped up this year. A coup took place in March. In the aftermath, soldiers deserted the army. There are reports many even sold their equipment for money so Mali is now essentially defenseless.

Last month, the interim president called on the U.N. Security Council to help and so it seems increasingly likely there will be some kind of military intervention.

Already, a regional group called, ECOWAS, the Economic Community of West African States, is pooling together a small army. France is leading the calls for action.

It has submitted a proposal to the U.N. for Malian soldiers to be trained by the European Union. Those soldiers will then join a few thousand ECOWAS troops to retake Northern Mali. Remember, Mali was a French colony until 1960 and France continues to have trade interests in the region.

What about Washington's role? Haven't our leaders promised to go after al-Qaeda wherever it takes us? Yes, but that doesn't always mean we have to have boots on the ground.

Al-Qaeda and affiliated groups keep popping up in different parts of the world. When we suppress them in one region, they crop up elsewhere. It's a tremendous undertaking to keep following them, especially with troops. That's why it's heartening to see local and regional powers take up the fight. And Somalia, for example, Ethiopia and Kenya have been instrumental in battling the al-Qaeda linked Shabaab group. Other countries like Yemen have welcomed surgical U.S. strikes, even drone strikes, without a presence of U.S. troops.

But with or without the United States, there is a real prospect that the next war you will hear about, perhaps next years, will be fought not in Iran, but in the impoverished country of Mali. You heard it here first.

Up next, the human quest for success and money. We're all familiar with it, but how much is enough? When do you stop? We'll tell you the answer when we come back.

(COMMERCIAL BREAK)

CANDY CROWLEY, CNN ANCHOR: I'm Candy Crowley in Washington. "Fareed Zakaria GPS" will be back shortly.

But first, we've learned that New York City will suspend bus and train service starting at 7:00 p.m. due to Hurricane Sandy. We want to go meteorologist Bonnie Schneider at the CNN Weather Center in Atlanta for an update on the storm. Bonnie?

BONNIE SCHNEIDER, AMS METEOROLOGIST: Candy, the storm is definitely getting closer as it continues to work its way to the north and then make that turn back to the U.S., and that's what's so unusual about this hurricane. Of course, having a hurricane in October is unusual, as well. But this is going to be a wind and a rainmaker. We're talking about a widespread area impacted. In fact, millions of people potentially could be without power. When you look at the populations of large cities like New York, Philadelphia, and as far west as Cleveland, Ohio.

We're also looking at the threat for storm surge, this is very key because the winds are going to be strong, and we'll be looking for that water to pile up, particularly in the inner harbor areas like into New York harbor, Long Island Sound. All of these are at risk for storm surge and flooding.

You know, flooding is actually the leading killer in hurricanes. And a lot of that happens due to storm surge. So some of the rainfall totals you see are up to eight inches. But keep in mind, on the back side of the system, it's cold enough for snow. So Candy, we are looking at the threat for heavy snow in the mountains of West Virginia, as well.

CROWLEY: Wow. Big storm. Thanks, Bonnie. CNN will be covering the storm throughout the day. RELIABLE SOURCES is at the top of the hour. Now back to "Fareed Zakaria GPS."

ZAKARIA: How much is enough? Is anything ever enough? It sounds like a philosophical question, but it's also one about economics. So here's one way to approach answering it. A father and son write a book. The father is a famous economic historian. The son is a lecturer in philosophy.

I welcome Robert and Edward Skidelsky, authors of the book, "How Much Is Enough?"

What I'm struck by, Robert, in this book is it -- it's familiar. In the 19th century, there used to be many conservatives who would argue against industrialization because the feeling was this is just turning into kind of materialism, and everybody wants more, more, more, and then your great man Keynes wrote a piece in the '30s saying we're producing so much wealth that at some point everyone will have enough stuff. And they can all work for a few hours a day, and, you know, enjoy the rest of the day. Marx used to argue that as well in his own way. But it hasn't quite worked out that way for whatever reason as a predictor of how human beings will behave. We do seem to want more, more, more and more.

ROBERT SKIDELSKY, AUTHOR: We do. I think Keynes was heir to that moral Victorian tradition, in which money was regarded as a means to something, a good life. And he was the last really of economists, last generation of economists who thought in these terms and thought of economics as a moral science. And that you needed to ask always the question, enough for what, what is money for? Otherwise you are adrift. You just go on accumulating without end, without purpose. So he said enough for a good life. And he thought that technology was bringing that about, that it was actually producing such increases in wealth that we would be able to have abundance with a fraction of the work. That people would then do it, but that bit of it hasn't come about.

ZAKARIA: Why?

R. SKIDELSKY: I think a number of explanations. One is that our society's become much more unequal than it was when Keynes was writing. And the other is I think he underestimated the force of insatiability. The relative character --

(CROSSTALK)

ZAKARIA: You end up with new needs and new wants. If you have one car, you feel like maybe it will be even more fun to have three. In the book, it seems to me -- correct me if I'm wrong -- briefly what you're saying is you need enough for a kind of good, what we would consider middle class or upper middle-class life in terms of material comforts, house, things like that. And that beyond that, the kind of constant accumulation of more stuff doesn't give you a good life. What gives you a good life is time spent with your family, building relationships, pursuing activities that you find interesting.



EDWARD SKIDELSKY, AUTHOR: Yes. Well, we break it down into seven basic goods, as we call that. These are the goods that together make up a good life -- health, respect, security, personality, harmony with nature, friendship, and leisure. So once you have enough money to enjoy these goods and once society has enough money to enjoy these goods collectively, then you have a good life.

R. SKIDELSKY: And it's insane to go on and on and on. ZAKARIA: And there's a tradeoff because in order to get more and more money, you have to sacrifice. You don't have the time for those friendships. You don't have the time for leisure. You don't have, you know, the ability to pursue that good life.

R. SKIDELSKY: In economic terms, they all have opportunity costs. Leisure has an opportunity cost, because it means when you're enjoying leisure, you're forgoing the extra income that you could be getting when you're working. And say if you're rational, you balance these things. But of course that's also an insane way of doing it. When you're poor, of course you need to work in order to get enough. When you're already rich, do this kind of calculation, and say, well, if I go to the theater, I'll -- I'll not make an extra \$100 that I would get by staying at my desk. I mean, when you're already rich, that seems to me an insane calculation.

ZAKARIA: But how do you determine -- the problem I'd say is in America nobody thinks they're rich, they're all trying to get richer.

R. SKIDELSKY: That's because they think they're not as rich as other people, and also --

ZAKARIA: Is there an objective standard you could --

R. SKIDELSKY: Well, I think the other thing that Americans worry about, and indeed many Europeans, is there's been a big increase in insecurity. They may have wealth, but how long will it last? What about their retirement? What about the cuts in services? What about their jobs? They may lose them. So there's this insecurity. And one of our basic goods is security. We believe there was more security, actually, in the '50s and '60s, certainly in terms of jobs, than there is today.

ZAKARIA: The one thing that does seem to be clear is that the research on happiness, if one can describe this as serious research, but there are lots of studies that say that what makes people happy once they have achieved some kind of middle-class status, is human relationships, ties to their families, leisure pursuits, civic activities. It's not the third car.

R. SKIDELSKY: But these are the very things that don't get into gross domestic product statistics, which are entirely about the goods that enter the market and are exchanged in the market. All these other things that give people the feeling that they're leading a good life and it contents them -- they are sort of ignored. And so the pursuit of growth as such is a highly misleading objective, because it just concentrates on a narrow segment of goods, and you always really want to ask what is growth for, what -- growth of what? Growth of what? And if you say growth of pollution, that is absolutely rubbish. That's not something you ought to be thinking about. But growth of friendship, how do you get it into GDP?

The king of Bhutan, of course, he suggests substituting gross domestic happiness as the goal of his people. Well, I can see why in a way. Because if there are lots of people that are very, very poor, and you can persuade them that they're happy, then he can keep his palaces going, and people won't get discontented about it.

So it's a bit of a -- it's a bit of a poisoned chalice, that notion of happiness. Because also, unless you're very careful, you get into a brave new world situation, where rulers make people happy by giving psychic aspirin or something like that, and then they feel idiotically happy the whole time.

ZAKARIA: Skidelsky, pere and fils, thank you very much for joining me.

Up next, shale gas has revolutionized America's economy, but is it safe? We'll have a debate on the pros and cons, coming right up.

(COMMERCIAL BREAK)

ZAKARIA: America's extraordinary natural gas boom has been made possible by an extraction method called fracking . That's the controversial process developed with the help of the U.S. government of shooting millions of gallons of water mixed with chemicals and sand down a well. When the water hits the shale rock, the rock that contains the natural gas, that rock fractures, releasing natural gas back up the well. So if it is helping to fuel our economic recovery, why is it so controversial? Let's talk to my next two guests. Abrahm Lustgarten won a Polk award for his series on fracking for Pro Publica. And Ann McElhinney is a journalist and filmmaker. She is the producer and director of the forthcoming film, "Frack Nation." Welcome.

Abrahm, let me start with you and ask you, just simply and succinctly, if you can tell me, what's the problem with fracking ?

ABRAHM LUSTGARTEN, ENVIRONMENTAL REPORTER, PRO PUBLICA: Well, there's serious scientific questions about what its impact is on the environment in three areas -- in terms of its effect on ground water deep below the surface; the wastewater that's produced and where that goes; and emissions and air pollution that results from the drilling. All of which can lead to, it seems, can lead to substantial health concerns and health impacts.

ZAKARIA: So let's take the first one then. And this is basically the fear that you contaminate the water -- or drinking water reservoirs. Ann, what is your research telling you about that?

ANN MCELHINNEY, DIRECTOR, "FRACKNATION": They've been fracking in the United States since 1947, so it's not a new method of any kind. And I suppose the quote from Lisa Jackson, the head of the EPA, who is on record as saying, according to her, she has no knowledge of one case of water contamination. So you have a situation -- like now in the United States -- where there are literally millions of fracked wells all across the country. This has been going on for a very, very long time. It's not like it is something new. We've actually seen what happens -- nothing happens. There are no cases of water contamination. And this is, as you said yourself, there, Fareed, it's an extraordinary ability now for America to extract its oil and natural gas and become energy independent. It's amazing, amazing for America. ZAKARIA: Abrahm, how do you respond to that? There has been a lot of fracking going on, hasn't there?

LUSTGARTEN: There has. The science just is not as certain as we've just heard. The fracking process has been developed in various forms over the last 50 years or so, but nothing at all like it is today, not in terms of the volume, the type of chemicals, the slick water fracturing, the horizontal drilling . Really, this is just something that's come about in the last ten years at best.

And the other thing that's dramatically different from historical drilling activity is the scale on which this is happening. The thousands and thousands of wells, the speed at which they're being drilled, and the range across the country. So it's entirely different from historically how drilling has happened.

ZAKARIA: Ann, what about that famous video in "Gasland," where the guy opens a tap and flames shoot out. The argument is that this is the methane that's come from fracking that's entered the water supply.

MCELHINNEY: Yes. It's very interesting actually, because we actually challenged the director of "Gasland" on that very issue. Because you know, it's a very dramatic moment. You see the guy light the water, it's like oh my God, if they frack in my area, this is going to happen.

Of course, what they don't tell you in that film and we confronted Josh Fox about was, has this ever happened before in America? Does water in America light? And of course, the truth is yes, it does, and it always has. That's why in the United States of America you have towns all over America called Burning Springs, because the water always lit on fire.

And why does the water in America light on fire? It lights on fire because of naturally occurring methane,

which there's a lot of. And in fact, actually, while that sounds like a bad thing, it's actually really, really good news, because that means there's an abundance of natural gas and an abundance of oil naturally occurring. So, you know, what happened in "Gasland" was this was very dramatic, this scene. People across the world have seen it and been terrified by it. It's just not true.

ZAKARIA: Abrahm, the argument is that methane mixes with water naturally or perhaps somebody drilling a water well hits a reservoir of methane. This is not necessarily a product of fracking .

LUSTGARTEN: Well, I think what you're hearing is a gross generalization. Personally, I've interviewed dozens of people, both researchers and homeowners, who have, you know, dealt with methane seepage, looking at cases for example documented by the Pennsylvania Department of Environmental Protection, by the EPA itself, by other government entities, where clearly the methane released in those -- in some of those cases has been caused by drilling activity, whether fracking or drilling or cementing or some aspects of the drilling activity. So it's just not true to dismiss all of those because some methane can occur naturally in some places.

MCELHINNEY: I think the really good example is that, you know, if you think of what happened in Dimock, Pennsylvania. Dimock is always quoted as ground zero for this. Every documentarian has seemingly gone there, a lot of journalists have gone there, they've interviewed 11 litigants. There were 11 litigants who were saying that there was methane leakage into their water systems in Dimock, Pennsylvania, 11 litigants.

Well, we went to Dimock, Pennsylvania, and we found something that everyone else seems to not have found. We found 1,500 families who said the water there was always appalling, that they always had methane in the water because of the fact that the place is so rich in natural gas. They formed an organization called Enough Already. That's why we were making this film, "Frack Nation," because actually, when you think of how much 11 is out of 1,500, it's 1 percent. We're making a film for the 99 percent whose voices aren't being heard.

Mr. Lustgarten's voice gets heard. He talks about maybe, and could be, and what if and what would happen, and this article here. But very -- his citations are very, very weak.

The truth is that the evidence, if anything, is incredibly favorable, in favor of this method of extracting oil and natural gas, which is desperately needed, when America is putting itself in such danger from getting oil from countries that really hate America. So this is a very good news thing.

Of course regulation is incredibly important. And regulation is there and in place.

ZAKARIA: Abrahm, what about the argument that you have to compare natural gas to the alternative? If we didn't have fracking , if we didn't have this cheap natural gas, we would be getting our electricity from coal. Now coal is much dirtier than natural gas, almost twice the CO2 emissions. Also has, you know, effects in terms of the atmospheric disease-causing pollutants. And it also causes lots of deaths in coal mining accidents.

LUSTGARTEN: Sure. I mean, there's a lot of benefits to natural gas. I don't think that anybody really disputes that. I just think that it's also important when you look at those benefits to weigh them against some of them costs, and at least to have a very clear-eyed understanding as to what some of those costs are. There's very serious questions, and they need to be answered. And most scientific communities and government regulatory agencies looking at this agree with that.

ZAKARIA: Abrahm Lustgarten, Ann McElhinney, thanks for being with us. This is a very good, substantive, civilized debate.

Up next, why this odd-looking contraption could save thousands of lives in Afghanistan and around the world.

(COMMERCIAL BREAK)

(BEGIN VIDEO CLIP)

OBAMA: You mentioned the Navy, for example, and we have fewer ships than we did in 1916. Well, Governor, we also have fewer horses and bayonets.

(END VIDEO CLIP)

ZAKARIA: That moment from the foreign policy debate got me thinking. And it led to our question of the week. During which war did the U.S. execute its last horse cavalry charge? Was it, a, the Civil War? B, the Spanish-American war? C, World War I? Or D, World War II? Stay tuned, and we'll tell you the correct answer. Go to [CNN.com/fareed](http://CNN.com/fareed) for more of the GPS challenge and lots of insight and analysis. You can also follow us on Twitter and Facebook. Also remember if you miss a show, go to iTunes. You can get the audio podcast for free, or you can buy the video version. [Itunes.com/fareed](http://Itunes.com/fareed).

This week's book of the week is "Plutocrats: The Rise of the New Global Super Rich and the Fall of Everyone Else," by my guest today, Chrystia Freeland. This book has very interesting data on inequality, it has great reporting, fun tidbits about the lives of the plutocrats, and very sensible policy advice about what to do about all of this.

Now for the last look. Take a look at this. From a distance it looks like a dandelion. Up close, perhaps an odd ball of toilet plungers. So what is it? It's called minecafon (ph), and it is a wind-powered land mine-clearing device. That's right. Propelled by the wind, it is meant to roll around landmine danger areas until -- [ explosion ].

It finds one.

Its inventor, Masud Hassani (ph), is an Afghan who has vivid memories of losing toys that flew or were kicked or thrown into landmine areas when he was growing up in the ear of war against Soviet Union. The problem goes beyond toys. Afghanistan is estimated to have perhaps ten million unexploded land mines, and more than 40 civilians are killed by these hidden explosives every month on average. So this might be a home-grown way to start fixing this problem. Necessity truly is the mother of invention.

The correct answer to our GPS challenge question was d -- the last American horse cavalry charge was in World War II. On January 16, 1942, the galloping horses of the 26th Cavalry Regiment surprised the Japanese in the Philippines and were victorious.

Now more recently, you might remember horses were also used early in Afghanistan by U.S. Special Forces, but that was not an official cavalry unit or an official cavalry charge.

Thanks to all of you for being part of my program this week. I will see you next week. Stay tuned for RELIABLE SOURCES.

### **Frosh: Majority of Md. Senate would support fracking moratorium**

Daily Record, The (Baltimore, MD) - Thursday, October 25, 2012

Author: Alexander Pyles

A majority of the state Senate would support a legislative moratorium on hydraulic fracturing if such a bill is released from committee, Sen. Brian E. Frosh said Wednesday.

The Montgomery County Democrat, a likely candidate for attorney general in 2014, joined Sen. Jamin B. "Jamie" Raskin, D-Montgomery, in voicing his support for a bill that would give force of law to a moratorium enacted through an executive order given by Gov. Martin O'Malley in 2011.

Hydraulic fracturing is a drilling technique that involves blasting a mixture of water, sand and chemicals a mile deep and then drilling horizontally for a mile in potentially every direction in the Marcellus Shale, a rock-encased natural gas formation that runs beneath much of Garrett and part of Allegany counties.

Fracking -related legislation has failed to move out of the Senate's Education, Health and Environmental Affairs Committee in the last two sessions of the General Assembly.

"We've got to convince the committee that it's the right thing to do," said Frosh, who was the Senate sponsor of one ill-fated fracking bill this year. "I think we've got a majority of the Senate that will go for us if we can get a favorable committee report."

Raskin, who plans to join the fracking fray in 2013, said lawmakers may be more focused on the issue this year than they have been in the past.

"The Senate is a cautious, deliberative body for a reason," Raskin said. "I think there are lots of members of the General Assembly who are just tuning into this discussion now."

Del. Heather R. Mizeur, another Montgomery County Democrat who may have higher-office aspirations, sponsored a bill that passed through the House of Delegates last year that would have imposed a per-acre fee on natural gas companies that have leased land in Western Maryland for drilling. The fee would have been used to fund scientific safety studies a state task force is charged with completing and submitting by 2014.

She said this year, environmental and grassroots organizations would be better organized and prepared to force consideration of the bill in the Senate.

"We need to raise the level of education in the Senate to match the engagement we've seen in the House of Delegates the last two years," Mizeur said.

#### **Former SEC Chair Arthur Levitt Talks Fracking On Bloomberg Radio**

Bloomberg Television (USA) - Monday, October 22, 2012

Show: BLOOMBERG SURVEILLANCE

Author: Tom Keene; Ken Prewitt

FORMER SEC CHAIR ARTHUR LEVITT TALKS FRACKING ON BLOOMBERG RADIO

OCTOBER 22, 2012

SPEAKERS: ARTHUR LEVITT, FORMER CHAIRMAN, SECURITIES AND EXCHANGE COMMISSION

TOM KEENE, HOST, BLOOMBERG SURVEILLANCE

KEN PREWITT, CO-HOST, BLOOMBERG SURVEILLANCE

(This is not a legal transcript. Bloomberg LP cannot guarantee its accuracy.) TOM KEENE, HOST, BLOOMBERG SURVEILLANCE: -- as we do with perspective Arthur Levitt. He is the former chairman of the Securities and Exchange Commission, policy advisor to Goldman Sachs and Bloomberg LP board member.

Arthur, I would be remiss if I didn't ask you and I understand you are a policy advisor to the firm of what we observed last night. I don't think I've made any secret my attitude on it. I was out on twitter last night about it. I refuse to watch Mr. Smith on 60 Minutes last night. I learned about it from people that were I think is a general statement very critical. Have you ever seen anything like this before? LEVITT: I really haven't. I think that the interview was the most devastating indictment of a kiss and tell writer. I don't care whether it was Goldman Sachs or anybody else, but he looked totally pathetic in terms of defending what he did and when you play back all of the things that he said to hype the company early on, it made him look stupid. KEENE: Well I went back for the anniversary of 1987 Arthur and I looked at a wonderful YouTube video. Neal Kovutos about 17 years old in the video and two thirds of the way through his Arthur Levitt running the American Stock Exchange at I think the meeting in Washington. Now you had a disgruntled employees at the American Stock Exchange am sure. LEVITT: Well, if you deal with the floor you know disgruntled. KEENE: This is an amazing and I want to (inaudible) side event. KEN PREWITT, CO-HOST, BLOOMBERG SURVEILLANCE: Bloomberg commentator Susan Antila has a review of the

book on Bloomberg this morning. The headline, imagine Greg Smith's gall asking Goldman for more money. KEENE: Arthur, you have your focus with your hydrocarbon background at Williams College looking at striking in the United States. Why is Arthur Levitt looking at striking a natural gas in New York State? LEVITT: I think that what New York State is doing in terms of making them go through bureaucratic hoops before they decide on what they're going to do about fracking is ridiculous. I think the state should make use of existing public health research to expedite its review and make its previous lease scheduled but now unlikely November 29 deadline for a Friday decision. New York should be a leader. I'm not saying that fracking is good or bad. I'm saying get on with it. They've had studies upon studies upon studies. Now is the time to do it and New York should be the last party. We already have too much natural gas. The prices have dropped. This is not a time to delay and to just kill this thing by study. That's what Governor Cuomo and his people have been allowing to happen. Cuomo has got to push this along and see to it that we use existing material and let's go ahead and either do it or not do it. PREWITT: It's an interesting story Arthur because economic development in upstate New York has been a big issue around here for how many decades? LEVITT: That's true. PREWITT: So here it is and critics to the government say he is just bowing to political pressure from the greens (inaudible). KEENE: Easy Ken. PREWITT: That's what critics say. LEVITT: There's some legitimacy to understanding the chemistry of fracking but we've had a moratorium on drilling and price since 2010 and its cost the state jobs and tax revenue. KEENE: Arthur, I don't know where to go. The Giants, the Jets, the Yankees, forget about it. What are you going to look for in tonight's debate? LEVITT: I'm going to look for how far Romney is going to push Obama in terms of Israel. That would relieve the high order demagoguery on both of their parts to use a very sensitive both Israel and the Iran issue lend themselves to the kind of demagoguery that I hope at least one of home is going to be President of the United States doesn't fall into that trap. It would be a great national disservice to allow those two issues to be politicized. KEENE: Arthur, the next time you're on I want to talk about the SEC. He is the former chairman of the Securities and Exchange Commission. Arthur Levitt, Bloomberg LP board member as well.

\*\*\*END OF TRANSCRIPT\*\*\*

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Fracking - Injection wells - **The hidden risks of pumping waste underground - Whiff of phenol spells trouble.** <http://savethewater.org/category/water-contamination/page/14/>

### **Shale gas boom helps Exxon Mobil raw material gains**

Penn Energy 10/31/2012

<http://www.pennenergy.com/articles/pennenergy/2012/10/shale-gas-boom-helps-exxon-mobil-raw-material-gains.html?cmpid=EnlDailyPetroNovember12012>

Hydraulic fracturing of shale rock formations in the United States has made it easier for chemical developers to make ethylene.

### **Talisman defers investing in Quebec's shale gas**

Oil & Gas Journal 10/30/2012

[http://www.ogj.com/articles/2012/10/talisman-defers-investing-in-quebecs-shale-gas.html?cmpid=EnlDailyOctober312012&hq\\_e=el&hq\\_m=16085&hq\\_l=76&hq\\_v=z93aee0e00](http://www.ogj.com/articles/2012/10/talisman-defers-investing-in-quebecs-shale-gas.html?cmpid=EnlDailyOctober312012&hq_e=el&hq_m=16085&hq_l=76&hq_v=z93aee0e00)

Talisman Energy Inc. has decided against committing any more near-term investment for shale gas exploration in Quebec, the Calgary-based company said in comments about its quarterly financial statement.

**Talisman defers investing in Quebec's shale gas**

Oil & Gas Journal 10/30/2012

<http://www.ogj.com/articles/2012/10/talisman-defers-investing-in-quebecs-shale-gas.html?cmpid=EnIEDN>  
November 12012

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**Wyoming: BLM starts Patrick Draw project scoping period**

Oil & Gas Journal 10/31/2012

<http://www.ogj.com/articles/2012/10/wyoming-blm-starts-patrick-draw-project-scoping-period.html?cmpid=EnIEDN>  
November 12012

The US Bureau of Land Management's Rock Springs, Wyo., field office has launched a 30-day public scoping period prior to beginning an environmental assessment of Anadarko Petroleum Corp.'s proposed expansion of Patrick Draw field.

**Pennsylvania: Well results confirm Geneseo potential**

Oil & Gas Journal 11/01/2012

<http://www.ogj.com/articles/2012/11/pennsylvania-well-results-confirm-geneseo-potential.html?cmpid=EnIEDN>  
November 12012

Ultra Petroleum Corp., Houston, said encouraging results from its own wells and public data from adjacent third party wells affirm the commercial viability of the Upper Devonian Geneseo formation on the majority of Ultra's Pennsylvania leasehold.

**California: JV possible on Zaca extension portion**

Oil & Gas Journal 10/31/2012

<http://www.ogj.com/articles/2012/10/california-jv-possible-on-zaca-extension-portion.html?cmpid=EnIDaily>  
October 31 2012 &hq\_e=el&hq\_m=16085&hq\_l=106&hq\_v=z93aae0e00

Sovereign Resources LLC, Dallas, has signed a letter of intent under which it would form a joint venture with Underground Energy Corp., Santa Barbara, Calif., on part of Underground's Zaca field extension project in Santa Barbara County, Calif

**Wyoming: BLM starts Patrick Draw project scoping period**

Oil & Gas Journal 10/31/2012

<http://www.ogj.com/articles/2012/10/wyoming-blm-starts-patrick-draw-project-scoping-period.html?cmpid=EnIDaily>  
October 31 2012 &hq\_e=el&hq\_m=16085&hq\_l=111&hq\_v=z93aae0e00

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